THE ELEMENTARY SCHOOL JOURNAL

VOLUME XXVII DECEMBER 1926 NUMBER 4

Educational News and Editorial Comment

DEAN JAMES E. RUSSELL

Dean James E. Russell, of Teachers College, Columbia University, will retire from the deanship on June 30, 1927. He will continue his connection with the institution which he has developed, holding the double title of Barnard professor of education and dean emeritus. He will be succeeded by his son, William F. Russell, who has been for some years professor of education in Teachers College and associate director of the International Institute of that institution.

The influence of James E. Russell on modern education both in America and in other countries has been immeasurable. He came to Teachers College as professor in 1897 and was made dean in the following year. When he became dean, Teachers College had no endowment; it was in debt a quarter of a million dollars and was laboring under the depressing burden of an annual deficit of from seventy to eighty thousand dollars. Its faculty was disorganized, and its place in the educational world was in question, even in the institution with which it was affiliated. By the exercise of the highest adminis-

trative genius, Dean Russell has established Teachers College on a firm material foundation. He has brought together a notable collection of scholars and has placed Teachers College in the front rank of American educational institutions.

The influences which have issued from Teachers College during the years of Dean Russell's administration have transformed public education in America and have had the most far-reaching effects on education in every civilized country.

Seldom has it been the lot of any man to retire from administrative duties under conditions so auspicious as those which mark Dean Russell's withdrawal from the active duties of the deanship.

The dean-elect comes into office at the age at which his father first took up the administration. He has made an independent place for himself in the educational world. He was chosen for the deanship by the president of Columbia University, who, under the terms of the affiliation between Columbia University and Teachers College, has the right to make the nomination for the deanship to the trustees of Teachers College.

Teachers College owes its present prosperity to the dean who is retiring. It can certainly look forward to a continuation of success under the incoming administration.

THE UNIVERSITY OF CHICAGO DINNER

The annual dinner of the University of Chicago which is held during the week of the meeting of the Department of Superintendence will take place at the University Club, Dallas, Texas, on the evening of March 2, 1927. Tickets may be secured from William S. Gray, University of Chicago, for $2.50 each. All alumni and former students of the University are most cordially invited to attend. The members of the Dallas University of Chicago Club will serve as hosts on this occasion.

NATIONAL SOCIETY OF COLLEGE TEACHERS OF EDUCATION

The National Society of College Teachers of Education will hold its annual meeting in Dallas, Texas, on Monday and Tuesday of the week of the meeting of the Department of Superintendence, February 27 to March 3, 1927. President Walter S. Monroe announces

that the morning meetings will be for members only, that the Monday afternoon meeting will be devoted to a discussion of the problem, "Graduate Work and Research," and that the Tuesday afternoon meeting will be a joint session with the National Research Association. A large attendance is expected. The headquarters of the society in Dallas will be the Hotel Jefferson.

A COMMISSION ON THE EQUITY OF TEACHER PLACEMENT

Cases are sometimes brought to the attention of instructors in departments or schools of education which involve conflict between teachers and teachers' agencies. On the one hand, the teacher sometimes believes that the agency claims a fee when it has not performed services which warrant such a claim. In another type of case a university- or college-appointment bureau may have notified the candidate before the teachers' agency knew of the vacancy and yet the teachers' agency claims the full service fee. On the other hand, a teachers' agency sometimes feels that a teacher has broken his contract with it.

Complaints originating in these and other types of cases are frequent enough, in the opinion of the members of the National Society of College Teachers of Education, to warrant the appointment of a commission to investigate and report on them. Such a commission was authorized at the last annual meeting of the society, and the president appointed J. B. Edmonson, of the University of Michigan, J. W. Withers, of New York University, and F. N. Freeman, of the University of Chicago, as members of the commission.

The commission conceives its function to be: (1) to receive complaints concerning alleged unfair treatment on the part of teachers' agencies from teachers, superintendents, supervisors, principals, or other school officers, or complaints from teachers' agencies concerning alleged violations of contracts by teachers; (2) to investigate such complaints and to ascertain the facts by obtaining statements from parties to the controversy or from other first-hand observers; (3) to formulate, if possible, opinions on the equity of the cases in the light of professional ethics; and (4) to report the findings to the society with a view to their publication.

The commission also hopes to engage in supplementary investi-

gations for the purpose of ascertaining the general facts about teacher placement, arriving at principles which may be agreed on by all concerned and disseminating information on these general facts and principles.

The National Association of Teachers' Agencies has already taken the initiative in promoting just dealing between teachers and teachers' agencies by adopting a code of ethics. The commission will seek the co-operation of this association in arriving at a set of principles which both can approve. Some correspondence has already passed between the two groups. In dealing with individual cases, the commission will try to base its judgment on general principles agreed upon by the National Association of Teachers' Agencies and the commission.

The members of the Commission on the Equity of Teacher Placement are prepared to receive and investigate complaints from teachers or other school officers or from teachers' agencies regarding alleged unfair treatment. Correspondence may be addressed to the chairman or to one of the other members of the commission. A blank will then be sent, on which a formal statement may be made.

F. N. FREEMAN, *Chairman*

AMERICAN ASSOCIATION FOR ADULT EDUCATION

The first concerted movement in support of adult education in the United States has been inaugurated in the formation of the American Association for Adult Education, with national headquarters at 41 East Forty-second Street, New York City. The formation of the association followed two years of careful preparation, which included a survey by the Carnegie Corporation of New York of existing adult-education enterprises.

The studies which preceded the organization of the association revealed an active and widespread interest in adult education. In small spontaneously formed study groups, in workers' classes, in institutes and forums, or in university-extension classes throughout the country, men and women were occupied in studying in their leisure hours.

Early in 1926 a series of conferences were held in New York, San Francisco, Chicago, Nashville, and Cleveland to consider what de-

ductions might be made from the experiences of workers in the areas around these cities. To the conferences came men and women professionally engaged in adult education. They expressed the belief that an organization which sought not to centralize, standardize, or impose uniformity but to serve as a clearing-house of information and ideas, a center of discussion, and a repository of the records and practices of the profession would further the idea of adult education and give assistance to adult educators and students.

An organization was formed, and its offices are now open, with Morse A. Cartwright as executive director and with an executive board which reflects the differences in points of view and practices to be found in the field. It is to be the policy of the association to proceed slowly and to aim at permanent efficiency. The first object will be to establish relations with those engaged in adult education, whether as teachers or students; groups, schools, and individuals are eligible to membership. Preliminary to opening the offices of the association, Mr. Cartwright attended a conference of the World Association for Adult Education in Copenhagen last August and put himself in touch with adult educators in European countries, where there is a much larger body of experience than here.

The association plans no campaigns, no drives. It will seek to put on record the work in adult education already begun, and it will stand ready to give all movements in this field whatever assistance it can. Similarly, it will stand ready to give advice and assistance to those who are launching enterprises in adult education. It will publish pertinent material at intervals and convene conferences when vital subjects present themselves for discussion. Most of all, it will seek to accumulate a body of material bearing on the problems of adult education to which all those facing such problems may resort.

One step of considerable importance has already been taken in the opening of four teacher-training courses in adult education at the New School for Social Research in New York City. These courses are: Fundamental Problems in Adult Education by Everett Dean Martin, director of the People's Institute, New York City; Method and Content of Adult Education by E. C. Lindeman; Practice Course in Adult Education by Harry A. Overstreet; and Educational Psychology by Leta S. Hollingworth.

Simultaneously with the opening of the association's headquarters, publication of the series of studies on adult education already referred to has begun. These studies were made under the auspices of the Carnegie Corporation of New York. The five volumes (Macmillan Company) are as follows: *Libraries and Adult Education*, prepared by the American Library Association; *New Schools for Older Students* by Nathaniel Peffer; *Educational Opportunities for Young Workers* by Owen D. Evans; *The University Afield* by Alfred L. Hall-Quest; *Correspondence Schools, Lyceums, Chautauquas* by John S. Noffsinger.

The officers of the association are: James E. Russell, Teachers College, Columbia University, president; Leon J. Richardson, University of California, vice-president; J. H. Puelicher, American Bankers' Association, Milwaukee, treasurer; Margaret Burton, National Board of the Young Women's Christian Association, New York, secretary; and Morse A. Cartwright, New York, executive director.

THE NEW ST. LOUIS CURRICULUM

The school system of St. Louis, Missouri, has published a series of pamphlets dealing in a very elaborate way with each of the subjects in the curriculum. In four parallel columns are presented for each grade and each subject (1) specific objectives, (2) suggested activities, (3) suggested procedure, and (4) desirable outcomes.

More than any of the curriculum studies which have been published up to this time, do these St. Louis pamphlets give teachers in a very concrete way materials which can be used directly in guiding schoolroom practice.

A REQUEST FOR CO-OPERATION

On October 23, 1926, a subcommittee of the Committee on Standards and Training for the Elementary School Principalship of the Department of Elementary School Principals met at the headquarters of the National Education Association. A series of investigations bearing on the elementary-school principalship were projected. The committee is anxious to get in touch with all investigations which have been completed or are now in progress in school systems, in colleges and universities, and elsewhere which bear

on the status, duties, administrative relationships, and other phases of the office of elementary-school principal.

The members of the Committee on Standards and Training for the Elementary School Principalship are as follows: W. T. Longshore, chairman; James F. Hosic, secretary; John L. Bracken; Edwin C. Broome; Mrs. Jessie M. Fink; George W. Frasier; Charles H. Judd; William W. Kemp; Worth McClure; J. Cayce Morrison; John K. Norton; Leonard Power; E. Ruth Pyrtle; and Ide G. Sargeant. Send material to Division of Research, National Education Association, 1201 Sixteenth Street, Northwest, Washington, D.C.

A COMMUNICATION

Mr. Washburne's review of the writer's book, *Elementary School Supervision*, which appeared in the October issue of the *Elementary School Journal* is amusing and interesting. Possibly it is a case where two negatives result in an affirmative, because of the unscientific treatment of an "unscientific book." He speaks of thirteen pages devoted to a history test which lacks originality and "which never would be quoted at such length by anyone except its proud parent." He has failed to see that only three of the thirteen pages are taken up with the author's own tests, while the other ten pages are devoted to tests devised by Howard C. Hill, of the Laboratory Schools, University of Chicago. On page 139 in large type Mr. Hill is given full credit for these tests. It might also be added that Mr. Hill is considered one of the leading authorities in the teaching of history.

Mr. Washburne also speaks of padding the book with useless quotations, asserting that the chapters on the supervision of the various subjects are largely devoted to quoted material, taken chiefly from the Third Yearbook of the Department of Superintendence. The following is a statement of the facts concerning the quoted material.

Chapter iv, "The Supervision of Reading"

12½ pages from studies made by the committee on reading in the Seattle public schools, of which the author is chairman

2 pages from Lewis and Rowland, *The Silent Readers*

0 pages from the yearbook of the Department of Superintendence

Chapter v, "The Supervision of English Expression"

½ pages from the *Journal of Educational Research*

4 pages from a report of a committee of the Seattle Principals' Association, of which the author was chairman
1 page from a bulletin on "Articulate Speech," devised by the author and used in his own school for several years
8 pages of pupils' English productions, which is in line with many publications from the Lincoln School of Teachers College
2 pages from the Minneapolis bulletin on "English"
0 pages from the yearbook of the Department of Superintendence

Chapter vi, "The Supervision of Arithmetic"

1 page from the Third Yearbook of the Department of Elementary School Principals, edited by the author
4 pages from an article in *School and Society* written by the author
2 pages from Thorndike, *The New Methods in Arithmetic*
1 page from Lewis and Rowland, *The Silent Readers*, Eighth Reader
0 pages from the yearbook of the Department of Superintendence

Chapter vii, "The Supervision of History"

1 page from *Tentative Course of Study in History*, Seattle public schools
3 pages of the author's own history tests
10 pages of Howard C. Hill's tests
1 page from the Fourteenth Yearbook of the National Society for the Study of Education
½ page from Hartwell, *Teaching of History*
2½ pages from the Third Yearbook of the Department of Superintendence

Chapter viii, "The Supervision of Geography"

2 pages from *Tentative Course of Study in Geography*, Seattle public schools
3 pages of informal test material written by a Seattle principal
2 pages from the Third Yearbook of the Department of Superintendence

Chapter ix, "The Supervision of Natural Science"

1 page from the Fourth Yearbook of the Department of Elementary School Principals, edited by the author
2 pages quoting a bulletin used in the author's school and devised by two eighth-grade pupils under the direction of one of the teachers
0 pages from the yearbook of the Department of Superintendence

Chapter x, "The Supervision of the Specialized Subjects"

0 pages of quoted material

Chapter xi, "The Supervision of Physical Education"

½ page from the Sixteenth Yearbook of the National Society for the Study of Education
½ page from Emerson, *Nutrition and Growth in Children*
6 pages showing blanks used by the Department of Physical Education of the Seattle public schools
3 pages showing bulletins devised by the author and his teachers and sent to the mothers in the community
0 pages from the yearbook of the Department of Superintendence

Chapter xii, "Technique and Professional Interest"
- 2 lines from Cubberley, *The Principal and His School*
- 2 pages from an article in *School and Society* written by the author
- 0 pages from the yearbook of the Department of Superintendence

Chapter xiii, "Rating Teaching-Efficiency"
- 2 pages from a bulletin prepared by the Minneapolis Grade Teachers' Association
- 2 pages showing a rating blank used in the Seattle public schools
- 7 pages from the Third Yearbook of the Department of Elementary School Principals, edited by the author
- 0 pages from the yearbook of the Department of Superintendence

Chapter xiv, "The Marking of Pupils"
- 2 lines from Rugg, *Statistical Methods Applied to Education*
- 0 pages from the yearbook of the Department of Superintendence

Chapter xv, "The Principal's Self-Analysis"
- 0 pages of quoted material

Chapter xvi, "Training for Supervision"
- 2 pages quoted from a study made by W. C. Reavis at the University of Chicago
- 1½ pages from a study reported by Worth McClure. This study was made by a committee, with the author as chairman
- 2 pages of material from Worth McClure, representing his own individual work
- 8 pages from the Third Yearbook of the Department of Elementary School Principals, an article entitled, "The Evolution of the Principalship," prepared and written entirely by the author

Mr. Washburne classifies the author with Dr. Cubberley as to style of writing, which is an honor highly complimentary to the author.

ARTHUR S. GIST

THE BIBLE IN THE PUBLIC SCHOOLS

The *Christian Science Monitor* recently published the following article prepared by William Ross Hood, summarizing the facts with regard to the reading of the Bible in the public schools.

What appears to have been the first important legal dispute over the reading of the Bible in the public schools was one in Massachusetts in 1866. In a case in the courts of that state the rightful power of a town school board to require that the schools be opened each morning with Scripture reading and prayer was questioned, and the case went to the Supreme Court on appeal. The latter court sustained the power of the school boards to enforce such a rule. Since this decision was rendered, several other states have had in their courts

questions involving the legality of Bible reading in the schools, and there have been legislative enactments on the subject in about one-third of the states.

With reference to present practice, the various states may be divided into five classes or groups, as follows: (1) those whose laws require that the Bible be read in the schools at stated times, (2) those in which Bible reading in the schools is permitted by specific statutory sanction, (3) those in which it is permitted under general terms of the law or by common consent, (4) those in which stated Bible reading in the public schools is of doubtful legality, and (5) those in which such reading is not permitted.

Massachusetts was the first of the states to pass a law requiring that the Bible be read in the public schools; its first legislative act directing that Bible reading be included in the daily school program was passed in 1855. The other ten states of the first group have enacted their compulsory laws within the last fifteen years. The ten, with the years of adoption of their respective Bible reading requirements, are: Pennsylvania, 1913; Tennessee, 1915; New Jersey, 1916; Alabama, 1919; Georgia, 1921; Delaware, 1923; Maine, 1923; Kentucky, 1924; Florida, 1925; Idaho, 1925.

Here is indubitable evidence that the practice of reading the Bible in the public schools is growing in popular favor. Ten states in little more than ten years have legally fixed its reading in the school program. Additional evidence of the same trend will be seen in a number of court decisions involving the legality of the use of the Bible in the schools. A majority of these decisions have been favorable to such use.

Exclusive of Massachusetts, whose court decision has already been mentioned, there are three states of the first group whose supreme courts have delivered opinions on Bible reading in the public schools, and all of these have been favorable. The Maine Supreme Court held it not unconstitutional for a school board to require that the Bible be read in the schools, and in Georgia and Kentucky cases its reading was declared not "sectarian instruction" within the meaning of the constitutions of those two states. While not belonging to Group 1, as the states are here classified, Texas is a third state whose supreme court has decided that the Bible is not a sectarian book. But an Illinois decision runs to the contrary.

Laws of the compulsory kind are generally alike in that their intent is to require daily readings from the Bible, but in some other phases there is want of likeness. Alabama, for example, prescribes "readings from the Holy Bible"; New Jersey, "at least five verses from that portion of the Bible known as the Old Testament"; Pennsylvania, "at least ten verses from the Holy Bible." Several states provide for excusing from attendance on the reading exercises all pupils whose parents so request. It is also provided in some cases that no comment shall be made on the passage read.

There are six states whose laws expressly permit Bible reading in the schools. These constitute our second group; they are Indiana, Iowa, Kansas, North Dakota, Oklahoma, and South Dakota. In Iowa and Kansas there have been court decisions favorable to the use of the Bible in the schools. The laws of this

group of states would seem to indicate the intent of the legislatures concerned to safeguard the Scriptures against exclusion under interpretation placed upon constitutional or statutory inhibition of religious or sectarian teaching. For example, the North Dakota law declares: "The Bible shall not be deemed a sectarian book. It shall not be excluded from any public school."

The largest group of states under the classification made here comprises those whose statutes are silent on Bible reading in the schools but in whose schools it is permitted under general terms of the law or by common consent. In this group are twenty states and the District of Columbia. The following belong here: Arkansas, Colorado, Connecticut, Maryland, Mississippi, Missouri, Montana, Nebraska, New Hampshire, New Mexico, North Carolina, Ohio, Oregon, Rhode Island, South Carolina, Texas, Utah, Vermont, Virginia, and West Virginia.

In four of these states—Nebraska, Ohio, Texas, and Vermont—common consent has been in greater or less degree reinforced by favorable court decisions.

States in this article classified as doubtful are California and Michigan. In the former, the supreme court decided that any version of the Bible may be placed in public-school libraries but did not decide whether the Bible reading as a part of the school exercises is in contravention of law. The Michigan court held, in a particular case before it, that the reading of Bible stories emphasizing "moral precepts" is not unconstitutional, if the reader makes no comment and pupils are permitted to absent themselves, but the decision was inconclusive with regard to some other aspects of the matter. However, notwithstanding this uncertain decision, the Scriptures are read in many schools of this state.

There are nine states in which Bible reading at stated times in the public schools is not permitted. Under a ruling of the Arizona State Board of Education, pupils in that state may not be given religious instruction in school hours, and in Wyoming a clause of the state constitution is widely understood to prohibit any requirement that children attend religious exercises or instruction in the schools.

In an Illinois Supreme Court decision, reading the Bible in the schools was held to be "sectarian instruction." A Louisiana decision declared Bible reading to be a discrimination against the Jews, where both Old and New Testaments are read, and the Wisconsin Supreme Court said in a case before it that stated reading of the Bible in the schools is sectarian instruction within the meaning of the constitution of that state.

In two states, Minnesota and Washington, opinions of attorney-generals have been adverse to Bible reading in the schools. Under the Nevada constitution, any school district which permits "instruction of a sectarian character" forfeits its share of the state school fund, and this has been construed as barring the use of the Bible.

In a decision rendered in 1872, the New York state superintendent of public instruction ruled that there was no authority in the law of that state for using any portion of the regular school hours to conduct religious exercises at which the attendance of pupils was made compulsory. This ruling is still in effect, but

the charter of the city of New York permits Bible reading in the public schools of that city.

Respecting the extent to which the Bible is used in the public schools of the country, it may be assumed that in the eleven states having compulsory laws the Bible is generally read and that the practice varies in the twenty-six states where its reading is merely permissible. According to data published by the United States Bureau of Education in 1923, of the states where Bible reading was permissible, there were only four or five in which little attention was paid to it. In all other states of that group it was widely read. For the nine states where court decisions and other authoritative opinion were adverse to the use of the Bible in the schools, reports were, of course, unfavorable to the reading of it.

EDUCATIONAL PUBLICITY

The city of Rochester, New York, has seen a striking practical demonstration of educational publicity which has been well organized and conducted and, above all, very successful in reaching the taxpayers of the city. The *Democrat and Chronicle*, which is the leading newspaper of the city, published during 1926 a series of ninety-four articles on such topics as "The Elementary School: Arithmetic," "The Junior High School: Literature," and "The Senior High School: Social Science." These articles are now published in a pamphlet of ninety-four pages under the title, *The Public School Program:* Reprints of a Series of Articles Describing the Program of Instruction Pursued in the Public Schools of Rochester, New York.

In a letter addressed by J. P. O'Hern, assistant superintendent of schools, to the principals of the schools in Rochester, the following paragraphs appear.

There never was a time when the public at large was so interested in the public schools. A great deal of pains was taken by the *Democrat and Chronicle* in the preparation and printing of this admirable summary of the aims, methods, and results of school work, subject by subject, in the elementary schools and junior and senior high schools. We know of no similar pamphlet as comprehensive, and it should, therefore, be of great service to teachers in familiarizing them with the aims and methods in divisions other than the one in which they are teaching, and to parents in acquainting them with the work planned by state and city school authorities for the public schools.

Just now, as you know, we are engaged in a larger and more definite survey of our objectives, technique, and results through committees representing the elementary and junior and senior high school divisions of the school system and through various subcommittees representing subjects of instruction. This pamphlet may well serve as an introduction to the larger pamphlets which will be

published later, when the survey has reached a point of more definite agreement and adjustment as to objectives, methods, and results.

PART-TIME SCHOOLS

When a public official advocates part-time schools, it would seem legitimate for educators to ask for the evidence on which his judgment is based. The newspapers report as follows a pronouncement recently made by a New York City official:

> A shorter work day for the school child was advocated by Dr. Louis I. Harris, health commissioner, in extending the greetings of Mayor Walker at the opening of the first annual convention of the Metropolitan League of Jewish Community Associations.
>
> "We have heard," Commissioner Harris said, "of the 'horrors' inflicted on our children by part-time classes in the public schools, but I wish this 'horror' might be aggravated until all the children of the first three grades might be put on a part-time basis.
>
> "I advocate this strictly as a health measure and entirely aside from its economic or political aspect. The truth is, our system of teaching children of six, seven, and eight years of age is archaic, and their confinement in school for five hours a day is cruelty and has its serious effect upon their future well-being. I am an advocate of a short work day for the school child and believe that the proper program would be to give each child periods of work in the open air as well as play and classroom sessions."

Such evidence as there is seems to contradict the health commissioner's statements. Is not decision on this matter important enough to require that careful experimental studies be made before pronouncements are made affirmatively or negatively?

NORMAL SCHOOLS AND LEADERSHIP IN EDUCATION

A number of the better normal schools are beginning to discover that their duty is not absolved when they have given courses to inexperienced candidates for admission to the teaching profession. A normal school has a unique opportunity to influence the practices of the schools throughout its tributary territory. In order to exercise such influence, the normal school must aid the schools by preparing materials for classroom teachers to use with their pupils and by conducting studies which shall show the schools how well they are fulfilling the tasks for which they are organized.

During the past month an excellent example was given by the State Normal School of Trenton, New Jersey, of the way in which a

progressive movement can be promoted. The November issue of *Service Leaflet* is devoted to the discussion of the elementary-school library and ways of making it effective.

The following are paragraphs from the preliminary article prepared by Lily Milholland Dodgen, librarian.

Until recent years the school library was regarded as a desirable though somewhat luxurious addition to school equipment. Its use was largely voluntary and outside the daily routine.

The change in the conception of education and in the methods of teaching has changed the status of the school library. It has brought the school library from the outside wing to the center of school activities. It is no longer a luxury; it is a daily necessity. The child in the elementary school has need of books. Present-day methods in the elementary grades call for the school library. Standards of education for the elementary school make it a necessity. The school library may be thought of as the agency in the school that makes possible a definite, systematic manipulation and control of the materials of instruction.

The realization of the necessity of the school library began at the top of the school system and worked downward. The college first recognized this need and provided the college library; it was only a decade ago that the high school came into its own; the junior high school followed; today we have the beginning of the elementary-school library.

In past days teaching consisted largely in urging students to master certain instruction for future use. The modern school attempts to help the child live fully the life of childhood and at the same time to direct his growth into maturity. The textbook no longer suffices. For this greater plan a supply of informational subject matter suited to the reading ability of the individual is necessary. In addition to this, books which furnish enjoyment, entertainment, and inspiration must be supplied. This material can be properly assembled and distributed only in the school library.

MOTION PICTURES IN SCHOOLS

The *New York Times* recently published the following editorial.

An adverse report on the use of films in the classroom has been rendered by the Education Committee of the London County Council. This was after studying the experience of the New York State schools. It is not unlikely that to some extent the report reflects opinion in this country when it declares that it is doubtful whether much progress has so far been attained with the film as an educational medium.

There are branches of study for which the motion picture would seem to be eminently adapted both in stimulating and in satisfying interest. This is particularly true of the social sciences, including geography. A moving picture of the Durbar at Delhi or Armistice Day at Paris or the noon hour in front of a Pittsburgh mill and in New York's garment center has obvious advantages over

the old lantern slide. In the natural sciences, processes can be magnified and made more vivid, though here the technical problem arises of slowing up the film or even stopping it.

As a matter of pedagogy, the film, while arousing interest, may be in danger of discouraging effort. It is the modern idea that learning is best promoted by seeking and finding out and not by being told or shown. The project method and the social recitation strive for the encouragement of personal initiative and self-direction. From this point of view, the film may make things too easy. It would be a pity if the cessation of mental effort characteristic of movie audiences in general should follow the introduction of the film into the classroom.

The appearance of this item was followed by the publication of a letter signed, "Apostle of Visual Education," from which the following paragraphs may be quoted.

The *Times* editorial broaches a theme which is sorely in need of clarification in the minds of our public educators if their overt acts are to be taken as an index of their educational opinions. The popular craze over the motion picture seems to have inspired our boards of education and superintendents with sentiments akin to those of the builders of the Tower of Babel—"Go to, now, let us install a motion-picture machine, that our children may mount to the top of the educational ladder." . . . .

It is perfectly plain to most of us teachers that a picture that is to yield its full educational value must be seen again and again; it must be carefully observed, be made the theme of socialized recitation, and made to yield not only what is seen but also what is suggested. One has only to recall some familiar picture to be convinced of the truth of these principles.

The true function of the motion picture is to visualize those parts of the educational program where the portraiture of action is essential to the comprehension of the subject, such as the operation of a piece of machinery, or the putting together of such machinery, the evolutions of a squad of soldiers, a public reception at the City Hall, and a street pageant of cultural value. No matter what the theme of the motion picture, it must be remembered that its effect is transient, evanescent, a thing of the moment, and, unless supplemented with the study of still pictures or unless coupled with some form of serious study, its real educational value is slight. It is the hors d'œuvre of the educational banquet and not the *pièce de résistance*. . . . .

It would seem to be better policy on the part of our public-school authorities to equip classrooms with a convenient supply of electricity and with simple stereopticons for the projection of lantern slides or films before spending perhaps $1,000 for the purchase of a motion-picture machine, which can be used only occasionally at best and seen only by a small part of the school. Few motion-picture films that properly co-ordinate with the school work are available, while still pictures, well selected and organized, are available.

CO-OPERATIVE EFFORT IN SUPERVISION

WORTH McCLURE
Assistant Superintendent of Schools, Seattle, Washington

The purpose of this article is to define briefly the principle of *co-operative supervision* as opposed to the principle of *competitive supervision* and to discuss certain modifications of procedure which are the result of the new concept.

Throughout this discussion, the term "supervision" will be employed according to present usage rather than according to original derivation. To some, the phrase "to supervise instruction" still means only "to inspect" in the sense of mere classroom visitation.[1] Ayer, on the other hand, quotes the results of an analysis of more than five thousand time cards of supervisors, covering a period of two years, which shows that 85 per cent of the work of the modern supervisor falls outside this category and is therefore not supervision at all in the original sense.[2] The truth is, of course, that the scope of activity of the one who now supervises has developed amazingly in all three dimensions since its inception and that supervision at present is no more to be compared with initial supervisory practice than is the professional technique of the classroom teacher of today to be likened to that of her predecessor of the Nineteenth Century. Either we should displace the term "supervision" or we should accept its modern implications. For the purpose of this article the term "supervision" will be used to comprehend all the activities of superior officers which aim directly at the improvement of instruction.

The fundamental consideration in the organization of *co-operative supervision* is that of the functional delegation of authority and responsibility. Functions must be clearly defined; necessary authority and certain responsibility must be delegated for their exercise.

[1] W. H. Burton, "The Making of Supervisory Programs, I," *Elementary School Journal*, XXVI (December, 1925), 267.

[2] Fred C. Ayer, "The Principal and the Special Supervisor," *Bulletin of the Department of Elementary School Principals*, IV (April, 1925), 148.

There has been considerable hesitation in the past in attempting this distinction between the field of the building principal on the one hand and the field of the supervisor on the other. No doubt this hesitation has been due to the feeling that definition would lead to a more complete separation of the two and a diminution of whatever co-operation exists.

It will be clear, however, that, where two fields of service exist side by side, there must be some definition before there can be co-operation between them. When there is no definition at all, there is usually between the two a professional no man's land; responsibility for its conduct is easily evaded, or there is duplication of effort and conflict of leadership. Fortunately, we are now arriving at a consensus of opinion with regard to the definition of functions of the several supervisory agencies. It is now generally agreed that the principal under the superintendent shall be the head of the school, responsible to the superintendent for the success of the whole educational program within the school. Granted, however, that his training in such subjects as music and the other fine arts is adequate, the principal will be prevented by sheer physical limitations from carrying personally the entire burden of supervision of the extensive and complicated program of the modern school. To assist him, the superintendent provides, as a part of the central staff, supervisors of special subjects and directors of specialized service, such as the research department and the psychological clinic.

One measure of the principal's success, therefore, is his ability effectively to utilize and intelligently to co-ordinate these expert services for the benefit of the pupils of his school. On the other hand, the measure of the success of the expert who is attached to the central staff, to quote Fred C. Ayer, "depends upon his ability to organize his service, and to deliver it for consumption."[1] The superintendent, as the third factor in the supervisory situation, is thus at once the leader and the co-ordinator of the services of the other two.

Under these definitions, there is afforded opportunity for a high level of co-operative effort. Not only have we reached what may be called a consensus of opinion with regard to the definition of supervisory functions, but new techniques the purpose of which is the

[1] Fred C. Ayer, *op. cit.*, p. 151.

facilitation of co-operative effort by all supervisory agencies have already begun to appear.

I. CO-OPERATION BETWEEN THE PRINCIPAL AND SPECIALISTS ATTACHED TO THE SUPERINTENDENT'S STAFF

Having accepted the responsibility for the leadership of the building, the principal is interested in the successful outcome of all the activities which are operative therein.

1. Specialists are making provision for utilizing the principal's knowledge of the local and personal equations.

In the city of Minneapolis, a schedule of supervisory visits, published a month in advance, has enabled the principal to plan the day so as to get the most out of the supervisor's visit. This schedule was found to be desirable because a supervisor frequently arrived in the middle of a testing program or of an assembly and the hasty rearrangement of schedules was always costly of time and of results. Furthermore, more than one supervisor often arrived on the same day, which occurrence was believed to be undesirable from the standpoint of effectiveness. To quote a report from that city:

> When a supervisor visits a school, she reports first to the principal's office, where she finds a tentative program for the day mapped out. The principal has previously consulted with his teachers and knows where help is most needed and just what specific help is most wanted.
>
> Now that the teacher knows that the supervisor is coming to her room, there is no unusual excitement. Under this new system, the supervisor is welcome, for the teacher has had time to think over the difficulties that have arisen since the last visit and to formulate questions and ask for suggestions. She has her work ready for inspection and can give her undivided attention to all criticisms. If she needs additional help, she has planned her program so that she can observe lessons that are given in other rooms. Teachers have often been heard to exclaim, "I am so glad that Miss ——— is coming next week. I am just ready to take up the divided beat and want to see how she will present the lesson," or "Miss ——— had a very fine writing lesson in my room. She got so much more out of my children than I have ever been able to get that I am inspired to work harder." These remarks show that between teacher and supervisor there is a relationship marked by cordiality, helpfulness, and mutual confidence.
>
> A supervisor new to the Minneapolis system has expressed herself strongly in favor of this plan because, when she visits a school, she finds that careful

preparations have been made for her work and that the principal is ready to accompany her instead of being told, "Just make yourself at home," and then left to work alone.[1]

Rochester, New York, finds a similar plan successful. A kindred type of co-operation has developed in Seattle, where the Superintendents' and Supervisors' League, a professional organization including all the members of the central staff, recently asked the various principals' study clubs to prepare lists of definite suggestions as to how the work of the central staff might be made more helpful to the teachers. Since these were group reports, they were necessarily impersonal. Their contents were made the subject of special study by the supervisory organization.

2. In order to facilitate follow-up work, specialists are acquainting the principal with standards of supervision in the more specialized fields. This procedure does not contemplate his qualification as an expert in these fields but is aimed merely at doing the same sort of thing educationally for the principal that is done for the layman in a medical way when he has mastered the contents of the manual of first aid. He has not placed himself beyond the need of skilled assistance, but he has been enabled, rather, to use expert advice more intelligently.

Standardization of outcomes has been well worked out in Detroit:

> The initiative in the development of the technique of supervision in each case has been taken by the supervisor. She assembles those definite factors which seem to her to make for the success or failure of a lesson in her particular subject. She attempts at all times to avoid vague intangible terms and presents only those items which are definite and observable.
>
> After the supervisor has completed her "Items for Observation," she presents the material to the sixteen district principals, who, after careful study and experimentation in their own buildings, suggest such changes, eliminations, or additions as seem advisable. The items are then revised to meet the criticisms offered, and a series of observation lessons are planned, at which the entire group of district principals under the direction of the supervisor and the head of the department of supervision apply the items to actual classroom situations.

[1] Maria R. Porcher, "The Right Relation of Co-operation between the Elementary School Principal and the Supervisors—A Case Study," *Bulletin of the Department of Elementary School Principals*, III (April, 1924), 162–63.

Following each lesson, a meeting is immediately held in which the various points are considered, and an attempt is made to harmonize the judgments of the various members of the group relative to the evaluation of each item in the lesson.

This harmonizing of judgments has invariably been secured only through the most persistent effort. Experience in this type of training has shown us that the most difficult thing to accomplish is to train people to see things as they are. A check on the judgments of the group on almost any definite item before the course in training has been given will show a surprising range of opinions, this range frequently extending from "excellent" to "poor" with most of the intermediate shades of value represented. And yet how self-evident it is that, if education is to arrive, there must be a complete business-like understanding, unbiased by personal opinion or personal prejudice, among supervisors and between supervisors and teachers as to just what constitutes merit in any type of instruction.

After the district principal has been trained by the supervisor in the technique of supervision, he in turn trains the principals of his district in the supervision of the particular piece of material on hand, and later, by cross-sectioning his district, he makes certain that the principals have thoroughly trained their teachers.[1]

3. Under the new conception of supervision, the principal's supervisory efforts will be of two general kinds: (*a*) direct or personal supervision, that which he does himself with such outside assistance as he may require; (*b*) indirect or vicarious supervision, that which he does mainly through another person. The development of a technique of the former has already been begun. The literature on personal supervision by principals is accumulating in a very gratifying manner. It is incumbent on the principal, however, to qualify himself in the integration of specialized service as well. This is even more delicate and involved than the former. In this field there is very little literature. An address delivered by Assistant Superintendent Frank E. Willard before the Seattle principals, quoted in a previous article,[2] summarizes the possibilities in this field.

II. THE RELATION OF THE SUPERINTENDENT TO THE NEW TECHNIQUE OF CO-OPERATIVE SUPERVISION

Upon the superintendent, of course, devolves the duty of harmonizing all supervisory agencies under his direction for the benefit

[1] George Birkham, "The Right Relationship of Co-operation between the Elementary School Principal and Supervisors," *Bulletin of the Department of Elementary School Principals*, III (April, 1924), 167.

[2] Worth McClure, "Helping the Principal To Grow Professionally," *Elementary School Journal*, XXVI (January, 1926), 341–43.

of the school system as a whole. The superintendent will naturally derive certain peculiar responsibilities, among which are the following.

1. The superintendent should assign authority and responsibility to the supervisory officers in terms of functions.

2. In order to facilitate community of effort of all persons involved, the superintendent should issue from time to time definite statements of educational policy. The following statement, recently issued by Superintendent Thomas R. Cole, is given as an example.

> The Seattle school system is committed to the following program and stands for its active development in all elementary grades:
>
> *a*) Further improvement in both silent and audience reading. (All oral reading except in the earliest stages is considered audience reading, and only the pupil reading has a book open.)
>
> *b*) The intelligent use of problem and project in the study of social subjects.
>
> *c*) The free use of suitable activities—dramatic, graphic, constructive—to make all studies of human relationships concrete, real, and meaningful. (History especially is such a study, and all subjects are included in this class in greater or less degree.)
>
> *d*) The adaptation of formal drill, as in arithmetic, place locations, spelling, language forms, etc., to individual needs in substitution for mass drill; and the handling of both this work and factual review work so that each individual of the class will be suitably occupied all the time.

3. The superintendent should provide means, by organization or otherwise, whereby the expert knowledge of the specialist will be checked with the practical point of view of the principal. This obligation cannot be emphasized too strongly. It is necessary because the specialist's plans are frequently conceived under *ideal conditions* and therefore need to be interpreted in the light of actual classroom life. The following occurrences will illustrate this point.

a) In one city it was proposed by the physical education department to make practical application of the principles of hygiene to the habits of the pupils, especially those whose health might be below par. In order to discover the cases requiring treatment, it was proposed to weigh and measure every pupil as often as necessary. The superintendent saw the obvious merit of the idea and advised the director of the department to call into conference an advisory committee of principals and teachers to assist in working out practical details. The director readily accepted this suggestion, and to the advisory

group he frankly stated the purpose of the plan and his desire to eliminate waste motion in its operation. Recommended adaptations were considered at a second conference, after which the plan was presented in detail by the director of the department to the entire body of principals and was accepted unanimously. It is now functioning with notable success.

b) In Minneapolis a joint committee of principals and staff specialists was appointed by the superintendent to work out ways and means of facilitating co-operative supervisory effort:

> At the invitation of the superintendent, the professional committee of principals met with the superintendent, assistant superintendents, and supervisors to outline a plan for increasing the efficiency of the work of the supervisors of special subjects.
>
> They based their recommendations on the assumption that "both principals and supervisors feel that the helping of teachers is a mutual undertaking to which each must make his contribution in harmonious co-operation with the other."[1]

4. The superintendent should attempt to secure co-operation among supervisors as well as between principals and supervisors. One city now has a committee working out possible correlations of subject matter in special subjects. Minneapolis also reports a very successful project of this kind under the leadership of an assistant superintendent:

> The supervisors work in close harmony with one another. Last spring the assistant superintendent and supervisors of art and penmanship held a series of meetings with the primary teachers to discuss the subject of seat work. An exhibit of different types of seat work demonstrated how the work in drawing and writing was being closely correlated with that of silent reading and arithmetic.
>
> When important changes are to be made in the courses of study, the supervisors are given an opportunity to present them to the principals before meetings are held with the teachers.
>
> It is the policy of the assistant superintendent to appoint committees of principals to study all proposed changes in the courses of study in the academic subjects and to assist in the making of all new courses.[2]

5. The superintendent should provide professional guidance and training for supervisors. In Minneapolis the assistant superintend-

[1] Maria R. Porcher, *op. cit.*, p. 161.

[2] Maria R. Porcher, *op. cit.*, pp. 163–64.

ent of elementary instruction has, "in addition to her many other duties, assumed the responsibility of helping the supervisors secure 'economy of effort and unity of purpose' in their work so that the special subjects contribute toward the 'well-rounded and well-balanced education' of the child. She holds conferences with the supervisors. Their outlines are submitted to her for criticism before they are printed for distribution to the teachers. This prevents conflicts between the objectives of the special subjects and those of the academic and assures proper balance by not allowing undue emphasis to be given to any one subject."[1]

6. The superintendent should provide professional training in service for principals. Practically none of the principals now in service have had, and very few will ever have, professional courses in institutions of higher learning which prepare them for the varied and highly specialized activities of their position. Such courses are even now all too rare in institutions of higher learning. The principal's professional training is still vague, chaotic, and unstandardized, and the literature of education is still practically silent on the subject. This condition may be accounted for by the fact that the principal's emergence has been so rapid that there has been no time for standardization of training and of professional techniques. This will eventually materialize, but, in the meantime, the superintendent must make definite plans for encouraging professional improvement "on the job." Superintendent David E. Weglein, of Baltimore, is now at work on a comprehensive plan for training principals, involving not only professional reading and study but such practical matters as supervisory demonstration clinics in the course of which actual class procedures are discussed from the standpoint of supervision rather than from the standpoint of teaching method. During the past three years, Superintendent Thomas R. Cole, of Seattle, has also been developing such a program.[2]

III. EVOLUTIONARY TENDENCIES IN SUPERVISION

It is well that competitive relationships in supervision are at an end. "A house divided against itself cannot stand." Historically, it

[1] Maria R. Porcher, *op. cit.*, p. 163.

[2] Worth McClure, *op. cit.*, pp. 340–44.

may be said that we have passed through two stages of the evolution of supervision and that we are now entering the third stage. The first, which may be called "the initial period," was marked by the dominance of central supervisory leadership. The second, which we may term "the period of competitive supervision," began about 1900, when the rapid extension of the educational program brought about competition through the emergence of two new agencies—the principal as a supervisory leader and the departments of specialized service.

The third and highest stage is that of co-operative supervision. For the execution of its technique, supervisors of special subjects, directors of specialized service, principals, superintendents, all will still be needed. As the new technique is perfected, in the place of division of authority within the school as a unit and consequent evasion of responsibility, there will eventuate centralization of authority and fixation of responsibility. Instead of multiplicity of directions and confusion of prescriptions to the classroom teacher, there is promised definiteness of leadership and harmony of advice; instead of competitive relationships and duplication of effort, unity of purpose and effectiveness of execution; above all else, the closer realization of that ultimate aim of school administrators—the complete integration of the educational program.

THE WHY OF HOMOGENEOUS CLASSIFICATION

J. T. WORLTON
Assistant Superintendent of Schools, Salt Lake City, Utah

One of the most pressing problems in the field of education involves the adaptation of methods and materials of instruction to the varying needs of individual pupils. That this problem has been recognized by leaders of educational theory and practice in the past is evident from the variety of plans proposed for meeting individual needs. Two important movements of the past decade, however, have resulted in a more general recognition of the importance of this problem and have brought about an almost universal demand for its solution.

The first of these movements is the development of the scientific method in education, which, though reaching its stride only within the past few years, has made most significant contributions in the improvement of administrative procedures and pedagogical methods. By its more accurate measurements, it has revealed to the rank and file of school people greater differences in ability and needs among pupils of the same age, sex, and educational environment than had been generally recognized before. The second is the increased demand on the part of the general public for educational opportunities. This demand has expressed itself in the increased numbers of young people applying for admission to educational institutions and in the compulsory-attendance laws which have recently been written on the statute books. This second movement has brought into the schools pupils of far greater diversity in ability, interests, and training than those taught in the schools of the past.

Among the more promising means of organizing the school to reach the individual child effectively and to serve his particular needs is that of grouping pupils into classes which are as nearly homogeneous as possible with respect to the ability of the pupils to do the required work. The term "homogeneous classification" as here used refers to the plan of segregating pupils for purposes of instruction

into sections composed of those of the same general ability as determined by the most reliable criteria available. A heterogeneous group, on the contrary, is made up of a cross section of abilities and includes a sampling of all degrees of ability represented among the members of the class.

In order to test the merits of homogeneous classification under rigidly controlled conditions, an experiment was conducted in the Salt Lake City schools during the school year 1923–24. A few of the larger elementary schools had organized homogeneous classes during the preceding year. During the past two years practically all the elementary schools of the city large enough to make such classification possible have been organized on this basis.

The following is a brief synopsis of the report of the experiment. The complete report is on file at the University of California.[1] The discussion which follows the synopsis is based on the experimental results and also on the experience of four years, during which the problem was given special study in the schools.

SYNOPSIS OF EXPERIMENT

An experimental study was made of the relation between the homogeneity of the class with respect to general ability and the success of the pupils in achieving certain objectives of the school. The experiment was conducted during the second semester of the school year 1923–24. It involved more than thirty-seven hundred pupils distributed through Grades IV B, V B, VI B, and VII B in twenty-four schools. Two thousand and fifty-two pupils were taught in homogeneous classes by sixty-seven teachers; the remainder were taught in control or heterogeneous classes by fifty-two teachers.

Evidence of the improvement made by the pupils was obtained by giving standardized tests of known reliability and objectivity at the beginning and at the end of the experimental period. The opinions of teachers of homogeneous classes respecting the relative advantages of the two methods of classification furnished additional data.

An attempt was made to control as many as possible of the

[1] J. T. Worlton, "Homogeneity vs. Heterogeneity in Class Organization: An Experimental Study." Unpublished Doctor's thesis, University of California.

factors which influence the progress of pupils. The pupils were classified into homogeneous or heterogeneous groups on the basis of their ranks on tests used for classification purposes. Only trained assistants were employed in conducting the experiment. The quality of teaching was made constant for both groups of classes, and the amount of time spent on the subjects tested was the same for both. Both groups of teachers had equal supervision and pursued their work with full knowledge of the purposes of the experiment and of the methods of procedure.

Evidence for or against homogeneous classification as revealed by tests was sought in the behavior of the pupils with respect to three major factors: first, the homogeneity of the respective groups as demonstrated in the subjects of study; second, the change in homogeneity during the period of the experiment; and, third, the relative improvement of the classes.

The findings of the study indicate that—

1. Pupils classified with respect to general ability tend to be classified with respect to ability in reading and spelling.

2. Classes which are made homogeneous with respect to general ability tend to improve their homogeneity with respect to subject matter more than do heterogeneous classes.

3. Pupils in homogeneous classes make greater gains in knowledge of the subjects taught than do pupils in heterogeneous classes.

4. In general, pupils are in a more wholesome educational environment when they are taught in homogeneous groups.

HOMOGENEOUS CLASSES IN PRACTICAL OPERATION

That pupils of the same age and training vary enormously in their general intellectual development and in their accomplishments in the school subjects has long been recognized, and many administrative devices have been tried out which aimed to take their differences into account. These devices were in the main, however, designed to give some form of special aid to the backward child in order that he might advance through the grades in step with other children. The evils attending this lock-step organization, with its uniformity of subject matter, methods, and promotions, have characterized the administration of the public school from its origin

to the present day. It is with a view to lessening these evils that the proponents of homogeneous classification advocate the grouping of pupils on the basis of needs as determined primarily by general mental ability.

The principal assumptions which form the basis of homogeneous classification and which are receiving ever increasing support from the findings of psychological research may be briefly stated as follows:

1. Intelligence is general, not specific; therefore, pupils who are bright in one subject may, by application, be bright in all subjects.

2. Pupils in elementary schools and junior high schools who are approximately equal in mental ability have, in general, similar educational needs.

3. If pupils of similar educational needs are grouped together, instruction may proceed under the wholesome stimulation of social intercourse and, at the same time, serve the needs of the individual pupil.

4. The relative mental development of a pupil is fairly constant; therefore, the personnel of a homogeneous group tends to remain the same as the group progresses through the grades.

That these basic assumptions are true in general is evident to the writer after a study of four years involving comparisons in twenty-four elementary schools and junior high schools, in which both homogeneous and heterogeneous classes were maintained.

The experience with these classes, in which careful records were kept, points clearly to certain advantages which may be obtained by segregating pupils into homogeneous groups. Among these advantages the following are most significant.

1. Pupils learn more readily the subject matter prescribed for mastery in the various subjects of study. It will be conceded at once that a plan of organization which promises to increase the efficiency in the school deserves most careful consideration.

2. Pupils of all types of mentality are in a more congenial social atmosphere. Such an advantage will at once commend itself to the teacher or to the practical school administrator.

3. More opportunities for developing leadership are presented. This is one of the paramount needs of our democracy, and its de-

velopment in the public schools is of vital importance to the welfare of the nation.

4. A greater stimulus is created for individual effort, since each pupil is in competition with his peers. The slow or retarded pupil responds with increased effort when he realizes that he has a chance to succeed in competition with his classmates. He is naturally discouraged when he sees his more gifted associates succeed with ease in doing what he himself finds difficult or impossible.

5. The joy which accompanies successful effort is increased, since an adjustment of the requirements makes it possible for all to succeed. The happiness of child life is always in evidence under normal living conditions. One of the most important responsibilities of the school is so to organize its forces that its objectives may be successfully pursued without interfering with this natural right of childhood. Indeed, one of the most telltale evidences of a poor school is the look of boredom and weariness on the faces of the children.

6. The tendency of certain bright pupils to be conceited and snobbish and the tendency of certain slow pupils to be discouraged are more easily controlled, because the amount and the quality of work required may be adjusted to the abilities of the pupils. The inferiority complex which blights the lives of many of the adult population has frequently had its origin in the public school, where demands have been made clearly beyond the possibility of attainment.

7. The problem of discipline is more easily solved. The bright pupil's time is fully employed; he has therefore neither time nor opportunity for mischief. The slow pupil is able to accomplish the required work, and the happiness and the satisfaction which result greatly reduce the number of disciplinary cases.

8. Teachers get greater satisfaction from their efforts. The tension which results from the presence of the misfit pupils is greatly relieved, and the increased energy which is made available for constructive teaching means greater achievements in educational outcomes and hence greater enjoyment in the service of teaching.

Objection is sometimes made to homogeneous classification on the basis of the alleged fact that pupils are generally strong in certain subjects and weak in others, therefore making ineffective any

efforts toward homogeneity of organization. If this assumption were correct, it would at once be admitted that homogeneous classification is an impossibility. A study of this problem, however, suggests the probability that, in general, the child who is strong in certain major subjects and weak in others is weak because of lack of interest and effort, not because he cannot do the work.

The findings of experimental psychology as well as careful observations in the classroom indicate that wide differences in ability in the same individual are of such rare occurrence as not to influence practically the homogeneity of a group of pupils selected on the basis of general ability. In fact, the homogeneous group is the most ready means of detecting weak points in a pupil's scholarship and of providing adequate stimulation to correct the deficiency.

Curiously enough, those who oppose homogeneous classification frequently point out the grave injustice which is sometimes done borderline cases by placing them in the wrong section. For example, if one hundred pupils in Grade V B are to be segregated into three sections, it is sometimes difficult to decide in which of two sections to place certain pupils. If an error in placing such a pupil is a "grave injustice," how much greater is the injustice resulting from a heterogeneous classification which places in the same class pupils of all degrees of ability! Provision should, of course, be made for shifting pupils from one section to another whenever their interests demand it.

Another argument against homogeneous classification is based on the fact that scores on intelligence tests are not infallible and on the assumption that pupils are classified on the basis of test scores alone. Certainly, no experienced worker would use test results as the sole criterion for grouping pupils. The condition of a child's health, his social maturity, his achievements in the subjects of study, his chronological age, his earnestness, and other qualities of character are all factors to be considered. While it is an accepted fact that mental ability is the most important single factor to be considered and that desirable character qualities, scholarship, and health correlate positively with it, any plan of classification based on the one factor of intelligence, even if the instruments of measurement were perfect, would fail to bring about homogeneity with respect to the

needs of the pupils or their ability to do the required work of the grade. The real objective in homogeneous classification is to place the child with those whose attainments, opportunities, and needs are as nearly as possible like his own.

While the evidence appears to be conclusive that the advantages listed may be obtained by an intelligent application of the principle of homogeneous classification, it is equally apparent that failure on the part of the teacher to take advantage of the improved teaching conditions may result in no apparent improvement in the outcomes of teaching. Space will not allow a detailed discussion of mistakes frequently made in the practical application of this principle and the consequent disappointment in the results obtained; however, certain dangers may be briefly mentioned and their results noted.

Some teachers find it difficult to adjust themselves to the different standards which are normal for strong and weak sections, respectively, and, as a result, pursue their work with erroneous judgments with regard to reasonable standards of attainment on the part of the pupils. This sometimes results in a nagging or complaining attitude on the part of the teacher or in a smug complacency in the presence of work far below the possibilities of the children, depending on the type of class taught. Poor teaching of either kind is a result of failure to study the nature of the children who are being educated and of failure to utilize available resources in their interests.

Sometimes the same material is taught to all classes in the same subject without regard for the ability of the pupils to master the prescribed work. This, of course, nullifies the primary purpose of homogeneous classification, which is to adapt the methods and materials of instruction to the needs of individual pupils. This evil is more likely to characterize departmental teaching because of the necessity on the part of the teacher to select different materials in the same subject for different types of classes.

A third danger lies in careless and indiscreet conversation about pupils who naturally belong in weak sections. By such remarks, teachers may do incalculable harm to both the bright and the slow pupils and thus prejudice the success of both. While the homogeneous group offers the most favorable environment in which to

build up a feeling of confidence and self-respect on the part of the slow child, this advantage may be entirely lost if the teacher is not sensitive to its possibilities.

Where these dangers have appeared, they are usually the result of inexperience or of lack of professional vision on the part of the teachers involved. The remedy, of course, is to be found in an improved quality of teaching and in higher standards of professional ethics.

Among the most outspoken critics of homogeneous classification are the advocates of individual instruction. They would have us recognize in each child a teaching unit and organize our courses and technique of instruction so that each child can set his own pace and pursue his work independent of the others. This point of view will be recognized as directly opposed to that taken by the advocates of heterogeneous classification. As a result of careful research in this field, certain subjects have been so organized that teaching may proceed successfully by the individual method. It is certain that the proponents of individual teaching have already made a permanent contribution to educational organization and methods. There are, however, certain practical difficulties which at this time appear to restrict the successful application of individual instruction to a relatively narrow field. Among the most apparent difficulties may be mentioned the following.

1. Since each child is to be a unit for instruction and since, according to the theory of individual instruction, he differs so much from other children that his interests are best served when he works alone, he needs a course of study selected, in large part, with reference to his own needs. It is illogical to assume that individual differences are so pronounced that each child must be treated in a class by himself and at the same time to propose a large body of identical curriculum material for all. The difficulties in the way of carrying this theory to its logical conclusion as it concerns the materials of instruction are apparent.

2. Since we live in an organized society in which each individual plays a minor part in co-operation with his fellows and in which social co-operation dominates the activities of individuals, it would seem evident that the school must foster methods which call for

group participation in solving the problems of the school. This fact is recognized by the advocates of individual instruction who plan special exercises designed to foster group activity. It is yet to be determined, however, whether these special exercises may be relied upon to offset the recognized loss in social values which accompanies the change from participation in group activity to independent individual effort.

3. Stimulation by the social group is at the same time a most wholesome and a most compelling force for achievement on the part of the individual. To lose it or to weaken its effectiveness would mean to sustain a real loss.

The advocates of individual instruction have made a real contribution in directing the attention of teachers to the needs of individual pupils. That they have discovered the natural and, at the same time, the most economical means of serving individual needs is to be questioned in view of the large classes which must be maintained. It remains for the future to tell. A more likely solution of the problem is the organization of classes as nearly homogeneous with regard to the educational needs of the pupils as the size of the school will permit. Wherever individual instruction can be employed to advantage, it should be made a part of the organization.

SUMMARY

The advantages of homogeneous classification rest on psychological principles which are supported by the results of modern scientific research. These principles include the following.

1. Intelligence is general; therefore, pupils who are bright in one subject may be bright in all subjects.

2. In general, pupils of the same mental maturity have similar educational needs.

3. Pupils of similar educational needs may be taught in groups; at the same time they may enjoy wholesome social activity and receive instruction adapted substantially to individual needs.

4. The rate of mental development is practically uniform; therefore, the personnel of a homogeneous group remains fairly constant.

A study of the practical application of the principle of homogeneous classification shows that the following advantages may be

secured by an intelligent application of this principle: (1) more rapid progress in subjects of study, (2) a more congenial social atmosphere in which to work, (3) more opportunities for developing leadership, (4) a greater stimulus for individual effort, (5) increased happiness which comes from work successfully accomplished, (6) a better opportunity to curb the spirit of snobbishness and conceit which sometimes characterizes certain pupils and a better opportunity to develop a feeling of confidence in pupils of slow development, (7) fewer disciplinary problems, and (8) better morale among the teachers.

Though real, the dangers which may result from homogeneous classification are the result of inexperience and lack of professional skill on the part of certain teachers and administrators. In contrast with its advantages, its disadvantages are inconspicuous.

Though possessing much merit in the case of certain well-organized subjects, individual instruction gives little promise of general adoption in the public schools, in which the necessarily large classes present very serious obstacles. Homogeneous classification, with courses of study adapted to the three main types of pupils, is a substantial step forward in adapting the school to the varying needs of children. Where it can be advantageously used, individual instruction should be incorporated as part of the plan.

A PROGRAM OF SILENT READING

ELMA A. NEAL
Director of Elementary Education, San Antonio, Texas
INEZ FOSTER
Assistant in Elementary Education, San Antonio, Texas

In 1923 the public schools of San Antonio, Texas, were reorganized on the 5-3-3 plan, with elementary, junior, and senior departments, and a revision of the curriculum was begun. To the elementary department was assigned the responsibility, among others, of providing skill in the tool subjects. Reading, as the most important subject, was given special attention.

Methods of teaching reading in the primary grades had been very well worked out, probably because it was felt necessary to give the children a good start in learning to read. The result was that the children of the primary grades acquired a general ability in reading. In the upper grades, however, in which the definite study of history, geography, hygiene, and nature is introduced and in which more extensive problem work is undertaken in arithmetic, methods of teaching reading had developed little technique for the efficient interpretation of the new material. There was need for instruction that would produce special ability in special subjects.

Concrete evidence of the difficulty that children encounter when confronted with reading material of increasing difficulty and of various kinds, as well as when the purpose in their reading is changed, was found in the monograph by Judd and Buswell, entitled *Silent Reading: A Study of the Various Types.*[1] Through a study of the eye-fixations made by numerous children during their reading of various kinds of material for various purposes, these investigators found that children have no uniform and efficient method of approach to the different tasks in reading.

C. T. Gray, of the University of Texas, agreed to assist in initiat-

[1] Charles Hubbard Judd and Guy Thomas Buswell, *Silent Reading: A Study of the Various Types.* Supplementary Educational Monographs, No. 23. Chicago: Department of Education, University of Chicago, 1922.

ing the problem of determining methods of improving silent reading in the fourth and fifth grades. He met with a committee of teachers from these grades, and the following question was raised: "Besides finding answers to fact questions given after a selection has been read, what means of interpreting the material of the fourth- and fifth-grade textbooks is needed?" Sixteen methods were found, ranging from following directions to outlining, reproducing the story, and dramatizing. The question then arose: "In which of these methods is it most important to give children of the fourth and fifth grades special training?" Five methods were decided on: (1) finding, by skimming, answers to fact questions given before reading; (2) finding answers to fact questions given after reading; (3) finding answers to questions that require the organization of the thought of several sentences, paragraphs, or even pages; (4) finding titles to paragraphs; and (5) outlining.

The committee was then divided into groups, each to determine the best methods of teaching one technique. The members of each group made subjective studies of their own mental processes while interpreting material with a specific purpose in mind, and lessons were planned by which children could be taught the particular technique. These lessons were tried in the classroom and were revised where necessary. When a successful method was found, the type of reading material used and the general procedure were outlined, and type lessons for each grade were prepared.

At a general meeting of the fourth- and fifth-grade teachers these lessons were presented and discussed. The teachers planned to try them in their classrooms and to note any changes that seemed necessary. They also planned to study the material in the reading texts and to list the selections suitable for teaching each of the techniques.

When these experiments were completed, the general procedure and the type lessons were again revised before they were printed in the English monograph of the San Antonio elementary schools.

Results of standard tests given in the fifth grade before and after the working out of the type lessons show great improvement in the reading ability of the children in this grade. There are no means of determining just how much credit is due to the use of the type lessons, to the use of silent-reading texts, and to the increased interest

and efficiency in the teaching of reading that resulted from the intensive study of the reading problem by all the teachers of the upper grades.

The pupils were tested by means of the Thorndike-McCall Reading Scale at the end of the first and second terms of the school years 1924–25 and 1925–26, the study of the reading problem being begun in the spring of 1925. Table I indicates the improvement in Grades V A and V B based on the means of the medians.

TABLE I

MEAN GRADE SCORES ON THORNDIKE-MCCALL READING SCALE*

Grade	January, 1925	May, 1925	January, 1926	May, 1926
V A.....	5.7	5.7	6.64	6.66
V B†.....	.....	5.2	.....	6.28

* The V B group that took the test in May, 1925, is the same as the V A group that took the test in January, 1926, so that the improvement for that group in the one-half year of work was more than one year in reading ability.

† Standard tests were not given in Grade V B in January, 1925, or in January, 1926.

The following lessons in outlining show the grading of lessons in teaching the technique of reading efficiently with a certain purpose in mind.

OUTLINE TYPE OF SILENT-READING LESSONS

Lesson I:

Choose a simple story that falls easily into parts.

Introduce the story in such a way as to arouse interest and to create the proper atmosphere.

Place the outline on the board.

Read the story to the class once.

Read the story again. Instruct the pupils to raise their hands at the end of the part of the story which covers the first topic or when they hear the beginning of the part which indicates a new topic. Do not let the voice indicate the change.

Let the class tell the story orally, different children telling different parts.

Have one child tell the whole story.

Type lesson—fourth grade:

Material:

"Sharp Wits," Searson and Martin, *Studies in Reading*, Fourth Grade.

Approach:

Use that given in the book.

Outline:

The goat gets into trouble.
He escapes.
The jackal gets him into trouble again.
He escapes the second time.

Lesson II:

Choose simple material that falls easily into parts.
Introduce the story in such a way as to arouse interest and to create the proper atmosphere.
Have the children read the story silently.
Place an outline on the board which has been prepared in advance.
Have one child read aloud the part of the story coming under the first topic. The children and the teacher should judge whether he has covered or "run over" his topic. Proceed until all the topics have been completed. When the children are more familiar with the process, let them relate the story by topics, warning them not to "run over" into the next part.

Type lesson—fourth grade:

Material:

"The Red Rubber Ball," Lewis and Rowland, *The Silent Readers*, Fourth Reader.

Approach:

Use that given in the book.

Outline:

Dwight meets the freckled-faced boy.
Dwight carries off the freckled-faced boy's ball by mistake.
How Dwight returns the ball.

Type lesson—fifth grade:

Material:

"How Kid Gloves Are Made," Part I, Bolenius, *Boys' and Girls' Readers*, Fifth Reader.

Approach:

Use that given in the book.

Outline:

The proverb about gloves.
How the first gloves in the United States were made.
How the industry changed.
The origin of mocha and suède gloves.

Lesson III:

Choose simple material that falls easily into parts.
Introduce the story in such a way as to arouse interest and to create the proper atmosphere.

Give one of the following directions: "This story falls into four parts. What are they?" "Let us make a list of the important happenings to be used as a guide in telling this story."

Have the children read the selection, keeping the directions in mind.

Help the children develop an outline, writing it on the board.

Type lesson—fifth grade:

Material:

"The Breaking in of Black Beauty," Searson and Martin, *Studies in Reading*, Fifth Grade.[1]

Approach:

Ask the children how many of them have seen horses become frightened, why they become frightened, how they are trained, and the names of a few pieces of harness.

"The horse is telling the story. He talks a while before he begins to tell you the different things he had to learn in his training."

Direction:

"Make a list of the different steps taken in the training of Black Beauty."

Have the children read the selection with the direction in mind.

Help the children develop an outline, writing it on the board.

Outline:

Becoming used to a halter and a headstall and becoming used to being led.
Learning to wear a bit and a bridle.
Getting used to the saddle.
Having shoes put on.
Being broken to harness.
Becoming used to the train.
Driving in double harness.

Lesson IV:

Choose simple material that falls easily into parts.

[1] Other selections of this type:

Listing important happenings:

"The Stone in the Road," Searson and Martin, *Studies in Reading*, Fifth Grade.
"The Story of Joseph," Horn, Shurter, and Baugh, *New American Reader*, Book Five.
"Aladdin," Horn, Shurter, and Baugh, *New American Reader*, Book Five.
"The Fish I Didn't Catch," Bolenius, *Boys' and Girls' Readers*, Fifth Reader.
"How the Cliffers Won," Bolenius, *Boys' and Girls' Readers*, Fifth Reader.

Finding parts of a story:

"How the Cliffers Won," Bolenius, *Boys' and Girls' Readers*, Fifth Reader.
"The Discontented Stonecutter," Searson and Martin, *Studies in Reading*, Fifth Grade.
"The Story of King Midas," Searson and Martin, *Studies in Reading*, Fifth Grade.

Introduce the story in such a way as to arouse interest and to create the proper atmosphere.
Have the children read the selection and make individual outlines.
Have the class discuss these outlines.

Lesson V:

Develop outline more fully, using simple subtopics.

Type lesson—fifth grade:

Material:

"The Story of the Dipper," Searson and Martin, *Studies in Reading*, Fifth Grade.

Approach:

Use that given in the book.

Outline:

The water becomes very scarce.
The little girl gets water for her sick mother.
Deeds of kindness bring rewards.
Girl's kindness to maid.
Mother's kindness to maid.
Their kindness to the stranger.

STUDY OF PERCENTAGE IN GRADE VIII A

H. W. KIRCHER
Superintendent of Schools, Sheboygan, Wisconsin

The purpose of the study here reported was to investigate the extent to which children in the second half of the eighth grade understand percentage. The results and conclusions are presented in the hope that they will stimulate thought in a field in which there is need of well-planned instruction.

In December, 1925, 133 children in Grade VIII A in Sheboygan, Wisconsin, were given the following test.

1. One cent is what per cent of one dollar?
2. Find one-half per cent of two dollars.
3. Change 1/2% to a common fraction.
4. Change 7/5 to per cent.
5. Five cents is five per cent of what?
6. One cent is what per cent of two dollars?
7. 75% of a number is 6. What is the number?
8. 110% of a number is 220. What is the number?
9. 5 1/2% of a number is 44. What is the number?
10. A man lost 15% of his money and saved the remainder. What per cent of his money did he save?

Table I shows the distribution of the pupils on the basis of the number of problems solved incorrectly. Table II shows the number and the percentage of pupils who solved each problem incorrectly. The total number of wrong answers was 897. The number of wrong answers, excluding the cases where there was no answer was 779. The total number of different wrong answers was 221. Table III shows the number of different wrong answers for each problem. Table IV shows the wrong answers for each of the problems and the frequency of each wrong answer.

In general, there is little agreement on wrong answers, but in specific cases there is marked agreement. In the case of Problems 1, 2, and 3 a large number of the pupils obtained the same wrong answers, which indicates that they somehow acquired a common

TABLE I

DISTRIBUTION OF THE PUPILS ON THE BASIS OF THE NUMBER OF PROBLEMS SOLVED INCORRECTLY

Number of Problems Solved Incorrectly	Number of Pupils
0	4
1	2
2	5
3	6
4	5
5	13
6	14
7	17
8	32
9	27
10	8
Total	133

TABLE II

NUMBER AND PERCENTAGE OF PUPILS WHO SOLVED EACH PROBLEM INCORRECTLY

Problem	Number of Pupils	Percentage of Pupils
1	79	59
2	117	88
3	124	93
4	73	55
5	89	67
6	101	76
7	78	59
8	96	72
9	105	79
10	35	26

TABLE III

NUMBER OF DIFFERENT WRONG ANSWERS FOR EACH PROBLEM

Problem	Number of Different Wrong Answers
1	8
2	17
3	19
4	25
5	20
6	19
7	33
8	27
9	38
10	15

TABLE IV

FREQUENCY OF EACH WRONG ANSWER FOR EACH PROBLEM

Answer	Frequency
Problem 1:	
1/100%	34
.01	21
100%	10
99%	6
1/10%	2
$1.00	1
1/99%	1
$.10	1
No answer	3
Problem 2:	
$1.00	60
100%	22
50%	6
1/100	4
1%	3
$.40	3
$.10	2
25%	2
.25	1
.001	1
400	1
1.90	1
¼%	1
40%	1
2%	1
.02%	1
$.50	1
No answer	6
Problem 3:	
1/2	49
1/5	14
.005	9
.50	9
50	9
50%	6
.05	3
1/100	2
35%	1
2%	1
1/1000	1
100%	1
.002	1
1.40	1
2.40	1
5	1
40	1
.005%	1
.055	1
No answer	12
Problem 4:	
1 2/5	13
1.4%	7
1 2/5%	5
14%	5
71 3/7	4
7 1/2%	3
.75%	3
7/5%	3
120%	3
.75	2
12 1/2%	2
271 3/7	1
.075	1
16%	1
70%	1
150	1
2 1/2%	1
15%	1
35%	1
8 1/7%	1
2 1/7%	1
.0014%	1
1.2	1
.01 2/5	1
12 1/2	1
No answer	9
Problem 5:	
25	19
100	16
$.25	13
100%	8
$5.00	3
5%	2
5/100	2
5	2
20	2
.5	1
1.25	1
25%	1
1/200%	1
1%	1
10	1
1	1
$10.00	1
50	1
1/14	1
.01%	1
No answer	11
Problem 6:	
2%	17
1/200%	14

TABLE IV—*Continued*

Answer	Frequency
Problem 6—*Continued*	
1/200	13
.02%	11
200%	7
200	4
1%	4
5%	3
1/50	3
20%	3
1/20%	3
199	3
100%	2
$2.00	2
1/100%	1
.005%	1
199%	1
1/2	1
1/20	1
No answer	7
Problem 7:	
9	8
450	8
2	4
12 1/2%	4
800%	4
24	4
12 1/2	3
10 1/2	2
45	2
$.02	2
18	2
.08	1
8	1
10%	1
1/8	1
6%	1
7 1/2	1
60	1
8200	1
7	1
600%	1
1 1/4	1
2/99%	1
4 1/2%	1
1200	1
3/25	1
600	1
3 1/2	1
452	1
81	1
25	1
17 1/2	1
1250	1
No answer	13

Answer	Frequency
Problem 8:	
2	25
1/2	6
440	5
198	4
242	4
330	4
200%	3
22000	3
300	3
100	2
33000	2
700	1
176	1
1/11	1
400	1
1/100	1
2220	1
264	1
2420	1
50	1
4400	1
110	1
280	1
24200	1
380	1
44	1
33	1
No answer	19
Problem 9:	
8	11
242	11
22	7
4	3
80	3
222	3
809 1/11	2
850	2
1210	2
133	2
100	2
880	2
2200	2
244	2
8 1/2	2
33	2
11	2
88	1
48 2/5	1
50%	1
3916	1
20	1
1/4	1
82	1

TABLE IV—*Continued*

Answer	Frequency	Answer	Frequency
Problem 9—*Continued*		Problem 10:	
220	1	15%	4
23	1	3/20	4
8200	1	17 11/12	1
2220	1	6 1/3	1
66	1	17/20	1
.22	1	660%	1
4400	1	1.5	1
4	1	9 2/3	1
274	1	$15.00	1
200	1	2.2%	1
5	1	35%	1
54	1	10 1/2%	1
24100	1	.04	1
6	1	$16.00	1
No answer	24	3/20%	1
		No answer	14

wrong notion. These pupils did not understand the difference between 1/100 per cent and 1 per cent nor the difference between 1/2 per cent and 50 per cent. Our teaching is responsible for this confusion. When a large percentage of the children in a class make the same error, it is safe to assume that they have acquired a wrong notion from the instruction. The great variety of wrong answers to Problems 7, 8, and 9 indicates that the pupils did not know how to proceed and that they were satisfied with any answer. The results show clearly that the pupils as a whole had no clear idea of the relation between the three factors in percentage. They seemed to be especially confused when they were given a certain percentage of a number and asked to find the number.

The kind of answers that the children were willing to accept for the problems shows that they knew little about percentage. In the case of Problem 8 it must be clear to anyone who understands percentage that 220 is larger than the answer; approximately one-half of the different wrong answers, however, were larger than 220. One of the answers was as high as 33000. It should also be clear that the answer is not much less than 200; yet twenty-five pupils were satisfied with 2 as the answer.

The fact that the children accepted almost any kind of answer clearly indicates that they did not understand what they were doing.

In the case of Problem 5, for instance, some of the wrong answers were expressed in dollars, some in abstract numbers, and some in percentages, which indicates that the children did not even realize the kind of answer they were looking for. They seemed to follow some formula blindly and to accept any kind and size of answer that this formula produced.

Approximately 30 of the 133 children had acquired an intelligent understanding of percentage, and the other 103 either had no clear understanding of percentage or were completely confused. It is probably safe to say that 40 per cent of the children were worse off than if they had never been taught percentage. These children had been taught to think that they knew a thing about which they had no safe nor worth-while knowledge. We must conclude from these results that approximately 70 per cent of the children either could not be taught percentage or had been mistaught. It is probable that both conclusions are in a measure true. Our experience would indicate that approximately 20 per cent of the pupils in an average eighth-grade class are not capable of appreciating the intellectual relations involved in percentage. If we are liberal and consider that about 30 per cent of the pupils in the present study had acquired a fair knowledge of percentage under our methods of instruction and that approximately 20 per cent could not be taught percentage, our instruction failed to reach a possible 50 per cent.

It is the writer's judgment that fundamentally the difficulty is the result of a vocational aim. We attempt to make children mechanically perfect in a routine to which they are intellectually blind. We indoctrinate the pupils in a formal routine and fail to give them an intellectual appreciation of the subject. Ordinarily, arithmetic should be educational or intellectual and not vocational. It is manifestly impossible to teach a child all the many exact forms in which arithmetic will enter into his life. Even if one could foretell these relations and the child were able to learn all of them in a formal way, he would forget them long before he would have any use for them. This formal method has value only in teaching the pupil to solve certain prepared arithmetic problems; it does not teach him to apply the principles of arithmetic to life and thus robs him of his rightful heritage. A close examination of practically all our instruc-

tion will show that, while we preach training of the intellect, we practice formal routine-memory dogma. The general principles of arithmetic are few and are in such general use that, if the child once understands them, he will remember them because of their general application.

To make clear the difference between vocational and intellectual arithmetic, let us assume that we are managing a business in which the duty of one clerk consists in figuring interest on notes and that this clerk knows nothing of percentage. We would not teach this clerk percentage, but we would teach him to multiply the time in years by the interest in decimal form by the principal. With sufficient practice, this clerk, who knows nothing about percentage, will become more dependable in figuring interest than the average person who understands percentage. In the case of intellectual arithmetic we aim to teach the fundamental principles of percentage so that the child will be able to apply them to any arithmetic problem which involves percentage and which he otherwise understands.

We should carefully distinguish between practice in the use of the principles and drill on the commonly used combinations or number relations. 2 and 2 is always 4, but the number relation 2 and 2 does not apply in all cases in which the number 2 is used. The situation may require 2 minus 2, and no one can be taught when a situation requires 2 plus 2 and when it requires 2 minus 2. Only an intelligent understanding of the situation will reveal the proper number relation. This distinction between formal and intellectual arithmetic is fundamental in good teaching. We should at all times make a careful distinction between drill in fundamental number relations and practice in the application of principles of arithmetic.

The arithmetic in use not only confuses educational or intellectual arithmetic with vocational arithmetic but introduces endless additional complications, such as the attempt to teach history, geography, and business forms along with principles of arithmetic. It attempts to teach the principles of percentage by using a problem like the following: "The population of the United States in 1910 was 91,972,266 and in 1920, 105,710,620. What per cent did the population of the United States increase between 1910 and 1920?" This problem does not stress the principles of percentage but at-

tempts to stress statistics and pure manipulation of numbers. In problems of this nature the child spends more than 95 per cent of the time in multiplying, subtracting, adding, and dividing and less than 5 per cent on the arithmetical principle under consideration. Good judgment calls for the reverse ratio.

Another questionable practice in our instruction is the habit of dividing percentage into cases and of teaching each case separately. The three so-called "cases" should be taught simultaneously so that the child will appreciate their interrelation from the beginning. This can be accomplished by giving many carefully chosen simple problems emphasizing the relation. By dividing percentage into cases and arranging the problems to be solved under these cases, we make the percentage work formal instead of intellectual. A child can get no experience in deciding which of the three cases applies when he has but one case to consider.

SUMMARY

1. There was no clear conception on the part of 80 per cent of the VIII A pupils included in this study with regard to the principles of percentage, but a confusion of whole numbers, decimals, and common fractions with percentage.

2. The pupils' time and energy had been spent in working problems in a formal way instead of in applying the principles of percentage.

3. The pupils had been drilled on certain formal relations until their minds had been so rutted that they automatically ran in a certain groove instead of traveling on a smooth pavement, guided only by the intellect and free to go where the intellect dictated.

4. As at present taught, percentage is largely a guessing exercise instead of an exercise in clear thinking.

REMEDIAL SUGGESTIONS

Teach all the cases of percentage at the same time and give every percentage problem in such a way that the pupils will be compelled to analyze it in terms of percentage and decide what formal work is involved.

Give many problems in which the arithmetical computations

are so simple that the entire attention can be focused on the principles of percentage.

Give credit only when you are certain that the child has a clear mental picture of the principle of percentage involved.

Give the pupils many simple problems in changing from percentage to decimals and fractions.

Give exercises in which the pupils are required to estimate the answers. In the case of the eighth problem, for example, the answer must be an abstract number and must be less than 220.

CLEARNESS OF THOUGHT AND EXPRESSION

FRANCES B. LOVELESS
Rainier School, Seattle, Washington

The February, 1926, number of the *Elementary School Journal* includes an excellent article by Zilla Elizabeth Wiswall.[1] This article contains the following significant sentence: "Because of the confusion of thought and lack of unity found in most of the sentences, the teacher of English should put forth every effort to aid the pupil in forming the habit of expressing his ideas *clearly* and *simply*. This ability is based on clear, concise thinking."[2]

When one considers the matter, one is impressed by the fact that, when a teacher has taught her pupils to think clearly and concisely and to express themselves clearly and simply, she has given them the most that an education can give.

It would seem that the ability to think clearly is more necessary in the United States than elsewhere in the world. In a republican form of government the welfare of the nation is in constant jeopardy at all points unless the voters are able to think an issue through to the end and to eliminate the false and misleading data that are injected into the issue. One would suppose that, as a class, teachers would be able to do this, but it is disappointingly true that the opinions of many teachers are formed by conversations with people who are far inferior intellectually but who, perhaps, have "an ax to grind." How utterly dependent on the newspapers for their opinions are the rank and file of the people, seemingly incapable of winnowing the chaff from the wheat and the false from the true. Public opinion is pitifully easy to sway.

There ought to be more and more stress placed on the teaching of clear, concise thinking in the public schools. Since the world-war, the need seems increasingly urgent. The whole world seems to have

[1] Zilla Elizabeth Wiswall, "A Study of Sentence Structure in Eighth-Grade Composition," *Elementary School Journal*, XXVI (February, 1926), 441–48.

[2] *Ibid.*, p. 445.

been whirled into a chaos of thought caused by the restless upheaval of old orders of thinking, which disorder will grow more confusing, no doubt, as time passes.

To prepare the oncoming generations to meet these changing and confusing conditions, teachers must be called on more and more to give training in that which will develop not only clearness of thought and expression but quickness of perception, for the world has been speeded up to an alarming degree in the last two decades. The automobile and the aeroplane are but examples of the pace that has been set. Our pupils will be pushed into a constantly increasing competition that will require rapid as well as clear thinking.

For many years the writer has taught foreign-born children, children of foreign-born parents, or children sent to her to be brought up to standard. The last-mentioned class has been made up mostly of children whose parents have come from the four points of the compass to work in Seattle's shipyards. During the extended period of such experience, the writer has little by little formulated a plan for teaching independent analysis and clear-cut interpretation of the paragraph. This plan has apparently been of value, because the pupils so taught have been markedly successful in the higher institutions of learning which they have attended. Not only have pupils voiced their gratitude for the benefit derived from this method but other teachers who have tried the method have expressed their appreciation of the help it has been to them.

The plan embraces teaching that has for its aim the following attainments: (1) definiteness of statement, (2) sentence perception, (3) analysis of paragraphs, (4) organization of ideas, and (5) enlargement of the vocabulary.

DEFINITENESS OF STATEMENT

In eliminating incoherence, the teacher may require the pupils to formulate original definitions without the aid of the dictionary. Examples of such definitions are as follows:

A chair is a *piece of furniture* used as a seat for one person to sit upon.
A pencil is a *tool* with which one writes or draws.
A coat is an *article of clothing* worn over other garments for the protection of the arms and body.

The pupil will begin to sense definiteness when he perceives that a definition must be stated according to two points: (1) The thing defined must be placed in one of certain definite classes. (2) The statement must be made so as to exclude other things of the same class. If a pupil defines a watch as "an instrument for the telling of time," he should be shown that the same definition could apply also to a clock. If a pupil says that "a fork is an instrument used at the table in eating," his attention should be called to the fact that the same would be true of a spoon and that he must supplement his definition to exclude other things of the same class. After the pupil has been required to make his definitions more specific, he will see that one must use definite words to convey even the most matter-of-fact ideas.

Words that lend themselves to class defining are as follows: automobile, bottle, kodak, eye, chalk, stove, furnace, street car, bicycle, teacher, home, sentence, savings bank, tire, store, shoe, thermometer, plate, frying pan, rubber, etc. The teacher must, of course, keep the exercise from becoming tiresome by making the recitation period short and by giving help at critical times.

Another much needed exercise that makes for definiteness is the following.

Direct a stranger to the following places; tell him which car to take, where to stand, and in which direction he must look for the car. Say "right" and "left" instead of points of the compass.

1. To ——— Hotel from ——— Dock, or ——— Station.
2. To pupil's house from the school.
3. To the public library from the school.

Interest is held and heightened in this case if one pupil is selected to act as the inquiring stranger and to choose the pupil who is to answer. In all the oral exercises here given it is desirable to allow a pupil to call on his classmates for responses whenever feasible, for the added enjoyment thus gained makes for success.

SENTENCE PERCEPTION

In the cultivation of sentence sense, each member of the class may be called upon to give a short oral composition on a certain interesting subject—"An Accident," "Camping," etc.—assigned in advance of class time. He must obey the following directions.

1. Use only simple sentences.
2. Place a period on the blackboard at the end of each sentence.
3. Bury in ignominy under this period any "and's," "and so's," or "so's" that might wish to be said.

The placing of periods on the board not only develops sentence sense but helps the pupil's flow of ideas, perhaps because it provides employment for his hands and thus relieves the embarrassment engendered by the consciousness of them when he is facing the class. If all recitations are so conducted for some time, great improvement will be noted. After a few months, drills in enlarging given simple sentences into good complex sentences by using suitable given connective adverbs can be employed.

ANALYSIS OF PARAGRAPHS AND ORGANIZATION OF IDEAS

The day on which silent reading was acknowledged by our educational leaders as a desirable part of the curriculum became a red-letter day in education. Silent reading is the most important part of the curriculum if it is used as a means for the organization of ideas. Too often silent reading has meant another load on the already overburdened teacher, who has wearily forced herself to write on the blackboard long lists of questions to be answered with open book from the silent-reading lesson.

Better results are obtained with far less expenditure of effort on the part of the teacher if, at the end of each paragraph or section assigned to be read, the teacher asks a number of oral questions. The questions, answered by one word or the shortest answer possible, can be quickly checked by the exchange of papers.

This procedure means supervised study during the silent-reading period. The gain for the teacher is great, for she can write her questions as she asks them. By this plan, the pupils will learn quickly that they must know the meaning of each sentence that is read; but, in answering a written list of questions, they search for the answers and pay little attention to the other parts of the lesson. Alertness in thought can be stimulated by asking an occasional misleading question.

The old method recently brought to attention under the name "problem method" is the most fruitful method in the getting and giving of ideas. It involves an extended period of supervised study to show the pupils that every good paragraph has a vital idea or cen-

tral thought, called "a topic sentence," and to teach them how to state it. Most pupils are inclined to seize upon a trivial point as the essential topic sentence or to voice mere words that convey no idea.

After numberless attempts to give topic sentences, the pupils perceive that the topic sentence sums up the content of the paragraph. If they ask themselves a question like "Why?" or "What?" or "In what way?" after the topic sentence has been formulated, the points that answer the question follow one after another in order in the paragraph. When they have learned how to state and prove a problem or topic sentence, they will soon see that the chapter or entire lesson has a topic sentence of its own and that the topic sentence of the paragraphs proves this problem.

Teaching becomes much easier when the pupils become able thus to analyze and to state their ideas in an orderly way. With a pupil in charge of the recitation to relieve the teacher of the burden of the routine work, the teacher can accomplish much more and avoid the usual strain of the recitation.

ENLARGEMENT OF THE VOCABULARY

It is evident that the pupil needs an adequate vocabulary if he is to express himself clearly. If his entire vocabulary is as meager as are his adjectives, which are limited to "swell," "smart," "keen," and "hay wire," he not only will fail to express himself to others but will be unable to grasp anything but the most obvious of meanings.

There are several methods of enlarging one's vocabulary, but the best way for a pupil to acquire a vocabulary unaided is in the silent-reading lesson. The writer insists that her pupils do not pass by any word which they do not understand but that they ask its meaning or make a list of such words for class reference. This plan has been adopted for these reasons: (1) The pupils will be less likely to pass by unfamiliar words if they do not have to exert themselves to find them in the dictionary and will more quickly form the habit of noting such words. (2) They can keep together in the recitation to better advantage if, with their varying speed, they do not have to consult the dictionary themselves. (3) They have so many difficulties which they themselves must solve that this aid is not amiss. When they arrive at the stage where they are more independent, they are invited to consult the dictionary for themselves.

Silent reading for pleasure is the most fruitful field for the increase of the vocabulary, for a pupil's vocabulary is unconsciously enlarged by his reading, the child reading the most having, as a rule, the best vocabulary.

In the upper grades, the textbooks can scarcely be called sources of pleasure. They therefore need a great deal of supplementing. The public library stands eager to help. The question is: How can the teacher best avail herself of its help? If all pupils liked to read, the answer would be simple; but some are almost habitual attendants of motion-picture shows, and some are out with "the gang" at night and have no interest whatever in books.

To create an interest in fiction, intensely interesting library books can be read by the pupils in the time allotted to audience reading. Three or four copies of each book can be given to pupils who read well. The part to be read can be studied by the pupils, and a list of the new words prepared.

The writer has yet to find a pupil who will not work as he never worked before to improve his reading to the point where he can be chosen to read to the class, since he knows that he cannot be chosen until he can read so well that the story will be understood and enjoyed. He will read over and over a third or fourth reader or some easy book and, when that is finished, ask for other material in order to improve his reading. Groups of aspirants for the coveted privilege of audience reading can be formed for further tutoring by a good reader during intermissions.

Perhaps the greatest help which the library provides is a list of books, both fiction and non-fiction, for each period of history. It is thus possible for the pupil to select books that will aid him to live in the spirit of the age which is to be studied by the class.

Thus, by the help of the library, not only is the vocabulary enlarged but the child who is habitually out at night will grow more and more satisfied with his own fireside, where he can lose himself in the work of the best minds that have helped to fill the world's great treasure-house of books. The teacher who has thus led her pupils to choose to sit in company with the most interesting and fascinating people of the ages has taught them one of the great lessons in life—to depend on themselves for the enjoyment of their leisure hours.

SOLVING ARITHMETIC PROBLEMS. II

CARLETON W. WASHBURNE
Superintendent of Schools, Winnetka, Illinois
RAYMOND OSBORNE
Francis W. Parker School, Chicago, Illinois

During the second year the committee confined its work to a more intensive and extensive study of the results and relative merits of three methods of training children to solve problems. In this study the co-operation of eighteen different schools was enlisted, involving ultimate records from 763 children in Grades VI and VII. The general method of the investigation can best be explained by quoting the exact directions given to the co-operating teachers and superintendents. These directions are important for a clear understanding of the results. The directions for training children by the analogy method are entirely new; those for training children in analysis are unusually explicit.

The teachers were first given very explicit directions as to how to divide the pupils into two equal parallel groups. These groups had to be equal primarily in their ability to solve problems, as shown by a specially devised problem-solving test, prepared by one of the members of the committee.[1] They had to be approximately equal in a test in arithmetic fundamentals,[2] in an intelligence test (National), in chronological age, and in the judgment of the teacher. The complete tables, showing all the scores of all the children in both groups, were submitted to the committee by the teachers before the experiment was begun.

The following directions were then given to the teachers.

Each school will compare two of the following methods. The teacher should carefully study the two methods she is to use and should *re-read these directions once each week during the experiment.* She will be asked to state, at the end, whether or not she has done so. Questions concerning the methods should be written or telephoned to C. W. Washburne, superintendent of schools, Winnetka, Illinois.

[1] Harry O. Gillet. [2] Prepared by W. C. Reavis and E. R. Breslich.

Method 1 is to train children in the solving of problems by giving them large numbers of problems—no special technique.

Method 2 is to train children to *analyze* problems. It is a definite technique of attacking problems.

Method 3 is to train children to see the *analogy* or similarity between difficult written problems and corresponding easy oral problems and thereby to decide what process to use in attacking the difficult problems.

Detailed directions for each method and for all methods in common follow.

Method 1—Many Problems

Work several problems on the board with the children's help. Then make your assignments and have each child go to work, solving problems without any special technique. When a child encounters difficulty, have him skip the problem temporarily and do the next. Pass around among the children and help each with his own difficulty. In giving this individual help, do not train in any general method but simply read the problem over with the child, ask one or two questions to discover his trouble, and then help him over the particular difficulty or help him solve the particular problem that is troubling him. Not much time should be given to any individual. The essence of the method is to let the child generalize for himself as the result of doing *many* problems. Too much time on any one problem would defeat this purpose. Carefully avoid using either Method 2 (analysis) or Method 3 (analogy) in working with pupils under Method 1.

The children's papers should be corrected by the teacher, and the children should re-work any problems that are wrong. All of this should be done, however, in the most time-saving way possible, so as to permit the working of a maximum number of problems.

Work should be labeled sufficiently to assure the teacher that the child knows what each number means, but abbreviations and other time-saving devices should be encouraged in this as well as in all other phases of Method 1.

At least twice each week, oftener if necessary, the teacher will devote the first fifteen minutes of the period to class work in solving problems, the children working a number of problems with her.

The essence of the method is getting as many problems solved as possible.

Method 2—Analysis

Method 2 seeks to train the child to attack each problem according to a definite technique. The technique he is to use is as follows:

1. Read the problem carefully.
2. Determine what is to be found.
3. Determine what elements in the problem will help find the answer.
4. Decide what process to use.
5. Estimate roughly the magnitude of the result.
6. Solve the problem.

The teacher should work problems with the class as a whole until she is certain that most of the children know the six steps and how to use each. The

children should then begin working on their next assignment, the teacher giving individual help to each child as he needs it. This individual help will always include going over the six steps with the child with reference to the problem which is troubling him. From time to time, at least twice a week and as much oftener as the class needs indicate, the teacher will spend the first fifteen minutes in working problems with the class as a whole according to the six-step analysis technique.

During the early stages at least and until the teacher is convinced that the child is habitually using the technique, each child, before proceeding to the mechanical operation, will write for each problem what is to be found and what is given. He will label his work, as in Method 1, and may abbreviate within the limits of clearness.

The children's papers should be corrected by the teacher, and the children should re-work during the regular arithmetic period the problems that were wrong the day before.

The assignments will probably be shorter than in the case of Method 1 (many problems). The main goal is not the solving of the largest possible number of problems but thorough training in the technique of analyzing each problem before solving it.

Method 3—Analogy

Method 3 seeks to train the child to see the analogy between the more difficult written problems and simple oral problems of the same type.

To this end, the teacher will begin by solving a number of problems with the class and by having members of the class make up simple oral problems similar to the written problem under discussion. The children will solve these oral problems, discover by what process they reached the solution, and then apply this process to the written problem.

When the teacher is convinced that most of the children know how to construct such analogous simple problems and to transfer the process to the written problems, she will make regular assignments, as in Method 2, thereafter helping individuals who meet difficulties. She will always give such help by bringing out the analogy between the problem that is causing trouble and a similar simple oral problem and will carefully avoid the analysis method.

At least twice a week, oftener if necessary, the teacher will take the first fifteen minutes of the period to work problems with the whole class, drilling the pupils in the analogy technique.

The children's papers should be corrected by the teacher, and the children should re-work, during the regular arithmetic period, any problems that were incorrectly solved the day before. This procedure is common to all methods.

The essence of the analogy method is neither the solving of many problems, as in Method 1, nor training in the technique of analyzing problems, as in Method 2, but the training of each child in the habit of seeing the relation between the more difficult written problems and the similar simple oral problems which he knows how to solve.

COMMON TO ALL METHODS

The children are divided into two groups according to the technique described. Therefore, the two groups being compared are supposedly of exactly equal ability. All other factors should therefore be made equal except for the particular differences in method which constitute the experiment. To this end, the same teacher teaches both groups. She does not know the children in one group better than she knows those in the other. The children who are taught earlier in the day one week should change class periods with the others the next week. The amount of time spent by the two groups should be the same. The amount of time, if any, given to drill in the fundamental processes will be the same and the method the same. The amount of oral work, or work done by the class with the teacher, will be the same. No home work will be permitted. No extra time will be allowed in school, with this exception: Children who have been absent may make up in school the number of periods they missed and do the problems they missed. If this is done, it must, of course, be done in both groups. It need not be done.

In every possible way the teacher will try to make the conditions the same for both groups, except where the methods taught call specifically for differences.

A careful record will be kept on forms that will be provided.

A special meeting was called before the experiment began. All teachers participating attended the meeting, as did their principals or superintendents. At this meeting demonstration lessons were given by the chairman of the committee, who taught the solution of problems according to each of the three methods so as to be certain that all teachers fully understood the differences.

At the end of six weeks of training, all the children were retested with Form 2 of the problem-solving test. This form of the test involved problems almost identical with those in the first form. The answers differed, of course, but the type of situation was the same.

The results are shown in Figures 1 and 2. Figure 1 shows the original and the final scores for all children in both selection of process and accuracy. The children who were to be trained by the many-problems method had an initial score of 5.79 in selection of process; those to be trained by the analysis method had an initial score of 6.12. The final score after the training was 8.42 for those who had been trained by the many-problems method and 8.02 for those trained by the analysis method.

The comparison between the results of the many-problems method and the results of the analogy method is less reliable than the

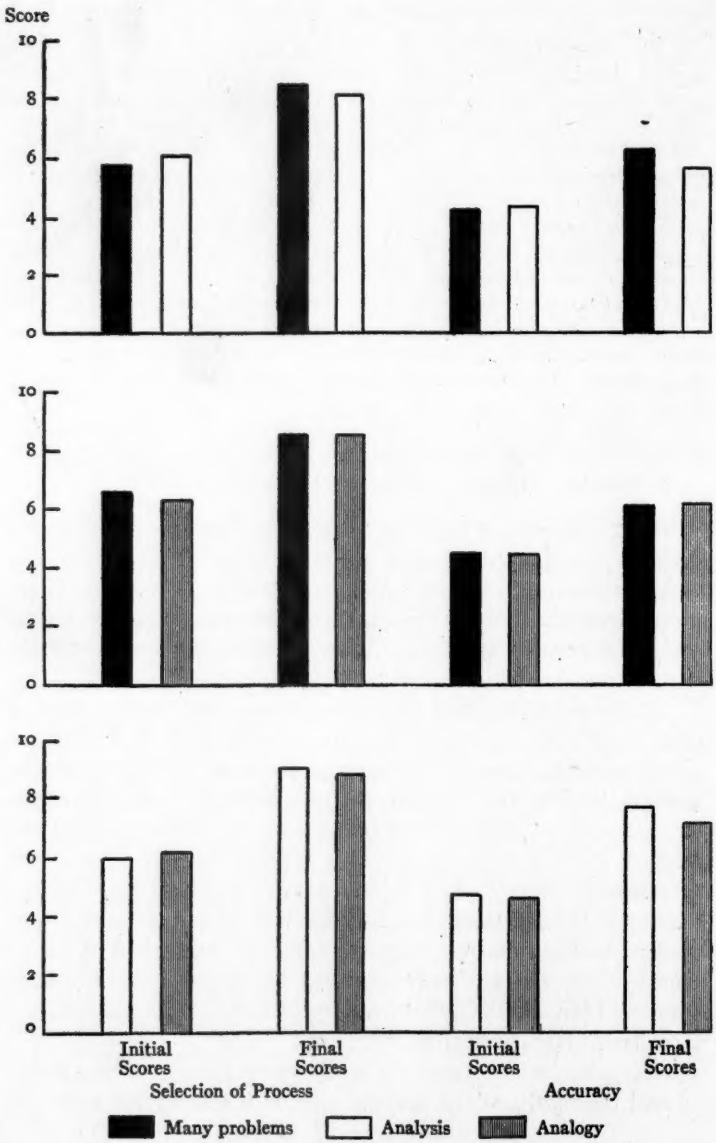

FIG. 1.—Comparison of scores, all quarters combined

other comparisons, as it involves only 134 children as contrasted with 322 and 307, respectively, in the other comparisons.

Figure 2 shows the comparative percentages of gain in selection of process, the groups of children being divided into four quarters. The first quarter includes those who made the best original scores in the preliminary test. The fourth quarter includes those who made the poorest scores. In the comparison between the many-problems method and the analysis method both the many-problems method and the analysis method resulted in a 6 per cent gain in the first quarter. In the comparison between the many-problems method and the analogy method the children trained by the many-problems method made a 10 per cent gain; those trained by the analogy method, a 12 per cent gain. In the comparison between the analysis method and the analogy method, the children trained by the analysis method made an 8 per cent gain; those trained by the analogy method, a 9 per cent gain.

It should be remembered that the comparison between the many-problems method and the analogy method is less reliable than either of the other two comparisons, on account of the smaller number of children involved. The second and third quarters are undoubtedly more significant than is either the first or the fourth quarter, for in the first quarter the opportunity for improvement was small, while in the fourth quarter the most difficult cases—the subnormal children, etc.—were grouped with normal children who happened to make low initial scores.

The general conclusion to be drawn from these figures is that, on the whole, the children who were taught no special technique of solving problems but simply solved many problems surpassed those who spent time learning a *method* of solving problems.

In all cases the children made remarkable gains. This seems to indicate clearly that concentrated attention, even for a few weeks, on solving problems by *any* method brings a rich reward. The apparent contradiction between the results of the present study and Stevenson's results[1] is thus readily accounted for. Stevenson found that training children to analyze problems for several weeks resulted

[1] P. R. Stevenson, "Increasing the Ability of Pupils To Solve Arithmetic Problems," *Educational Research Bulletin* (Ohio State University), III (October 15, 1924), 267–70.

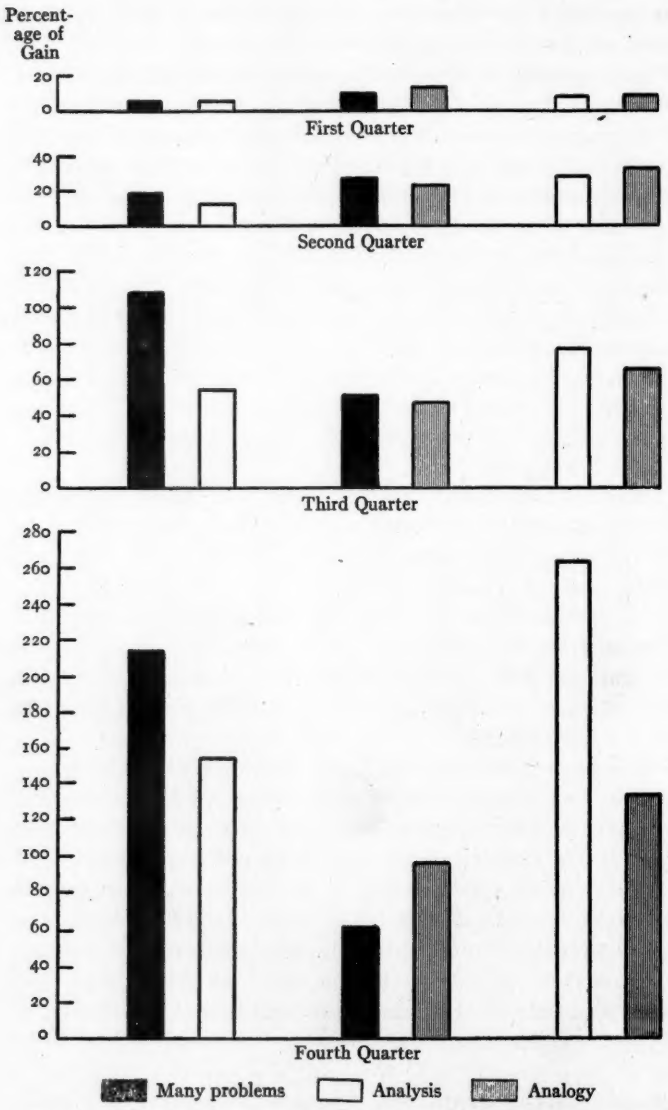

FIG. 2.—Comparison of percentages of gain in selection of process by quarters

in marked improvement; so did we, but we found improvement no matter how the children attacked their problems. The main point seems to be to give children plenty of problems to solve; then the children will learn to solve them, *with* or *without* any special technique. Our results seem to indicate that *to train all children to go through a set, formal analysis of their problems is less effective than simply to give children many problems and to help each child with any special difficulties that he may encounter.* This direct training produces better results than does the indirect training involved in teaching a technique of formal analysis.

Before the conclusions which may be drawn from the two years of study are summarized, the limitations should be clearly pointed out:

1. The problems used during the first year were very simple.

2. Neither study dealt with the use of problems in the primary grades.

3. Neither study was extended into the field of the relation between ability to analyze arithmetic problems and ability to deal with the more complicated or abstract mathematical processes in the high school.

4. No control group was given exclusive practice in the mechanics of arithmetic to determine how far this alone might influence problem-solving ability.

5. No study was made of the possible effect of training in the reading of problems.

6. No study was made of the value of training children to solve problems with an increasing number of steps.

7. The data are inadequate as to the effect of giving children problems which are real and related to their own lives.

8. No study was made of the value of systematic training in the recognition of situations requiring a given mathematical process—for example, recognition of situations requiring subtraction.

Within the foregoing limitations, the following conclusions appear to be justifiable.

1. The present investigation does not adequately cover the relation between reading ability and problem-solving ability. There does not appear to be any difficulty in the intermediate grades, however, in reading simple one-step problems understandingly.

2. No relation has been found to exist between ability to make formal analysis of problems and ability to solve problems. By "formal analysis" we mean the conscious selection of the "given" and "to find" elements, the elimination of extraneous elements, the determination of the process to be used, and the estimation of the results before or after solving the problem.

3. Unfamiliarity with materials and situations in problems is a small but significant factor in causing difficulty with problem-solving.

4. Lack of facility in the accurate use of the mechanics of arithmetic is a very common source of error.

5. Ability to solve a problem mentally is in many cases not accompanied by ability to solve the same type of problem involving numbers so large as to necessitate figuring on paper, even though the child can do such figuring correctly when the numbers are presented by themselves. This discrepancy is most noticeable in Grades III and IV and disappears to a considerable extent in the higher grades, in which the mechanical processes are more automatic.

6. Training children to analyze problems, training them to see analogies between difficult problems and similar simple problems, and merely giving them many problems to solve without any special technique all result in remarkable improvement in problem-solving ability—both selection of process and mechanical accuracy.

7. Training in the seeing of analogies appears to be equal or slightly superior to training in formal analysis for the superior half of the children; analysis appears to be decidedly superior to analogy for the lower half; *but merely giving many problems, without any special technique of analysis or the seeing of analogies, appears to be decidedly the most effective method of all.*

The general recommendations, then, growing out of the investigation are as follows: Problems should be so constructed as to present real situations familiar to the child. Children should be given many such problems to solve without special training in any generalized, formal technique of analyzing problems. Concentration on practice in solving practical problems will yield gratifying results.

REMEDIAL WORK IN READING

PEARL H. MIDDLEBROOK
Eastern State Teachers College, Madison, South Dakota

Every group of children can be classified on the basis of their reading ability as follows: (1) those who are at or above the median for their grade in both rate of reading and comprehension, (2) those who are below the median in both rate and comprehension, (3) those who are above the median in comprehension but below the median in rate, (4) those who are above the median in rate but below the median in comprehension. Frequently those in the last group belong in reality in the second group. To the busy teacher, the problem of furnishing the type of drill needed by each of the last three groups is a real one.

In an effort to meet the problem in the fifth grade of the training school of the Eastern State Teachers College, Madison, South Dakota, the following plan was devised. For a text we chose Chamberlain's *How We Are Sheltered*, because the material in it is factual, is interestingly written, and offers no new language difficulties for fifth-grade children.

In preparation for the work, the words in the teacher's copy of the text were numbered consecutively. The hundreds were indicated in the margin, the words themselves being numbered by 5's. Thus, one could tell the number of a word at a glance.

In further preparation, questions about the material on each page were prepared and recorded by pages. These questions were such as could be answered in very few words. Individual question books were then made for the pupils with spaces left between the questions for the answers. A section from one book is as follows:

PAGE 49

Who take the place of horses in Japan?
What grain do the Japanese raise in great quantities?

PAGE 50

What is one use of bamboo?
How do the Japanese make their gardens beautiful?

PAGE 51

What makes one think of snowflakes?
Are the houses large?

Lastly, an answer book containing every possible answer to each question on each page was made for the teacher's use in correcting the pupils' work.

Each recitation consisted of three definite parts: (1) flash-card exercises (Horn-Shields rapid-exposure cards), (2) intensive reading for two-minute periods, (3) comprehension check, obtained through the writing of the answers to the questions about the material read.

At the beginning of each recitation, rapid-exposure exercises were given for about eight minutes. Then each child was given his book with a slip of paper in it indicating the page and the exact sentence to which he had read the previous day. As soon as each child found his place, he closed his book, keeping his finger in the place, and sat at attention. When everyone was ready, the command, "Begin," was given. At the end of exactly two minutes, the command, "Mark," was given. Each child drew a line under the word that he was reading at the last command, finished the sentence, and closed his book. He then took his question book and wrote the answers to the questions concerning the material he had just read.

Comments on improvement in overcoming lip-movements, etc., were made before the children were again given the command to begin. Then followed another two-minute period of intensive reading. Usually four two-minute periods could be included in the day's recitation, each followed by the comprehension check.

At the close of the recitation, the teacher, by using her numbered text, could easily determine the total number of words read. This number, divided by the total number of minutes of intensive reading, gave the average rate for the day. The comprehension score was also easily determined for each child on the basis of the percentage of questions answered correctly.

Individual graphs for both rate and comprehension were kept for each child, showing each day's record. The possibility of beating one's own record each day was an effective spur to greater effort. The graphs also showed just what each child needed to work for.

The results of the use of the plan were encouraging. Each child showed enough improvement to be evident in his other classes.

Educational Writings

REVIEWS AND BOOK NOTES

Problems of curriculum construction.—The fundamental problem in education is the curriculum, and yet there is nothing in education about which there is more uncertainty. There is nothing on which there is less agreement on the part of able and honest workers in the field.

It is the purpose of Professor Briggs in his recent book[1] to show the nature of the more vital problems of curriculum construction. For the most part, these problems are presented in the form of questions, which are discussed sufficiently to show the character of the problems. The author disclaims any intention of even suggesting the solutions. For a restraint that is rather unusual in our profession, he mentions two reasons: (1) The intent of the book is to call attention to the seriousness, the magnitude, and the complexity of the task, and to stimulate many persons to attempt independent solutions. (2) To many of the questions even a tentative answer would be premature.

The author holds very consistently to his plan. With scientific detachment, he presents in chapter i, the first third of the book, twenty-seven questions as the major problems of curriculum research to which many years must be devoted before there can be any solutions based on objective evidence.

The author makes clear the incontestable fact that, before there can be any generally acceptable curriculum, there must first be a generally accepted philosophy of education which will provide the criteria to be employed in solving the many detailed problems and which will guide the planning of all the details. He does not push forward his own educational philosophy as the one to be accepted; but, from the way he presents his problems and from the nature of these problems, one can, of course, see what his philosophy is.

The other two chapters which constitute the book deal with certain non-intellectual matters of emotion and unconscious imitation, the importance of which has only recently been recognized by education. It is possible that these matters affect human conduct even more than does intellect and that in curriculum construction they should be planned for as carefully as are better-known intellectual matters. Because of the uncertainties of our information, the author does not attempt any complete statement of the problems. He points out the significance of only those that are definitely emerging.

[1] Thomas H. Briggs, *Curriculum Problems*. New York: Macmillan Co., 1926. Pp. xvi+138.

Professor Briggs's mode of presentation has the major virtues of directness, clearness, and restraint. In relatively brief space, he presents a great wealth of ideas and suggestions.

FRANKLIN BOBBITT

The extra-curriculum in the junior high school.—In the preface to a book[1] on extra-curriculum activities, the author makes the point that the consideration of the junior high school is shifting from treatises in "theoretical and general terms" to a study of special phases of the whole problem. In line with this conception of the trend, he presents a treatment of the organized social activities of this new unit in the school system. In a compact volume of less than 125 pages he provides a detailed description of practices and policies touching these activities as followed in eighty or more junior high schools. The information reported was gathered by means of a questionnaire.

The first chapter opens the problem and describes the schools co-operating in the study. The second and third chapters, respectively, set forth the extent and the nature of the pupil organizations and illustrate the variation in extent from school to school. The next chapter, designated as dealing with the "organization of extra-curricular activities," reports practices in the limitation and encouragement of pupil participation and in the keeping of records of participation. The three remaining chapters deal with the home room, the teacher adviser of extra-curriculum activities, and certain "unsolved problems."

It should not be inferred from this brief statement that the book is restricted to a mere report on practice and policy. The merit of both is also sometimes discussed. To be sure, the author does not venture final recommendations on a number of mooted questions with which the field of the extra-curriculum abounds. For this omission, in the present dearth of evaluative studies, he is to be commended rather than adversely criticized. All in all, the book will prove very useful to administrators, teachers, and students of education who would inform themselves on what those in charge of junior high schools are doing and thinking along the lines referred to.

LEONARD V. KOOS

UNIVERSITY OF MINNESOTA

An attempt to analyze intelligence.—A monograph[2] reporting several new tests has been prepared by J. J. Strasheim. The author started out with Spearman's definition of intelligence. The distinctive features of intelligence, according to this definition, are "the eduction of relations" and "the eduction of correlates." This description of intelligence is not as new as it sounds. The "eduction of relations" merely means the recognition of a relation, as of cause

[1] Paul W. Terry, *Extra-Curricular Activities in the Junior High School.* Baltimore: Warwick & York, Inc., 1926. Pp. 122.

[2] J. J. Strasheim, *A New Method of Mental Testing.* Baltimore: Warwick & York, Inc., 1926. Pp. 158.

and effect, between objects of experience. The "eduction of correlates" is illustrated by a case in which one, having in mind an object and the cause-and-effect relation, calls to mind another object which is the cause or effect of the first object. The processes to which these names refer, then, are abstraction, generalization, and inference.

The author set out to find tests which would measure these processes. He first invented series of situations to be described orally to the child. The first series of situations dealt with the general process of choosing sides and of determining who should have the first choice. The method of drawing from two unequal slips of paper was described. The later situations presented progressively altered conditions. The child was required to apply the general method to the new situations. The author made a minute analysis of the processes which, to his mind, were employed by the children in solving the problems.

A second series of tests consisted of pencil mazes; a third, of letter cancellation. Similar analysis is made of these.

The application of careful psychological analysis to the construction of tests is much needed, and Strasheim's study is a useful attempt at making such analysis. In its broad outlines, his analysis seems to be sound, but it may be doubted whether, in solving the problems, an individual actually goes through all the steps which are described. Furthermore, the reader feels that the author has relied rather too implicitly on Spearman's definition and has made his discussion needlessly difficult to read by using his peculiar terminology. The processes he deals with are not so new as they seem to be. Finally, it is somewhat surprising to find a follower of Spearman holding so lightly the canons of statistical procedure which Spearman has done so much to promulgate. For example, he discusses sex differences based on a comparison of twelve boys whose average age is 11½ years with ten girls whose average age is 10½ years, all of whom are adjudged dull by their teachers. In spite of its deficiencies, the report is worthy of study by students of mental testing.

FRANK N. FREEMAN

A social philosophy of education.—Educational philosophies change with the ebb and flow of national needs. Along with them, methods and curriculums are slowly modified. While one is thus flowering another is germinating. In our own land a succession of educational emphases have appeared and have strongly influenced subsequent educational history. During the last two decades, a recognition of the school as a socializing agency has been pushing its way into prominence, accentuated strongly by the realization of internal social weaknesses made apparent during the world-war. A recent book[1] seeks to make clear the significance of this social philosophy of education.

The author bases his discussion on three theories: biological evolution, psychic evolution, and social evolution. From them he draws his principles of

[1] Ira Woods Howerth, *The Theory of Education*. New York: Century Co., 1926. Pp. xvi+414. $2.00.

education. Biology is to furnish an insight into the physical nature of the child, psychology (genetic) into his mental life, and sociology into the structure of human society and the ends for which education itself exists, that is, "the constant increase of social efficiency at such a rate as will produce the maximum development possible to the school period" (p. 350).

Emphasis is laid on the scope of the educational process, natural and artificial, and the fact that heretofore, and even now, conscious attempts at controlling human evolution through the establishment of definite goals toward which to move have clearly been wanting. Change has been *genetic* rather than *telec.* As a consequence, with the increase in social complexity, the clash of individual as opposed to the social good is certain to be accentuated; the competitive rather than the social mind is developed.

Critical comment is made on the current curriculums of our schools to the point that they are not definitely committed, either in content or in method, to the social principle and that, as a consequence, social evolution is still largely, if not entirely, genetic. Admitting that the science of sociology has not set up a clearly defined social ideal, the author proposes that for movement toward such there are at least three essential factors: "(1) A high degree of social intelligence, (2) an improved social organization resulting from social economy, and (3) the co-operative spirit" (p. 378). The school, as well as the general environment outside it, must contribute to their development. There is thus involved not only social knowledge but social activity—knowing plus doing. "The school must synthesize the life of the individual and the social life. It must cultivate the disposition and the habit of striving for the attainment of social ends" (p. 373).

The titles of some of the chapters may serve to indicate further the character of the work: "Education and Evolution," "Education and Social Progress," "The School as a Social Means," "Government and Education," "A Social View of Higher Education," "Aim in Education," "Development of the Social Aims in Education," and "Education and the Social Ideal."

Anyone who is earnestly in pursuit of a philosophical basis for his educational thinking will be helped by the book. It is an exposition appropriate to the times; it is based on sound scientific principles and deserves to be read by earnest students.

R. E. WAGER

EMORY UNIVERSITY

A study of the pre-adolescent boy.—One would expect a comprehensive treatment of the development of human nature to require a consideration of all the stages of physiological, mental, and emotional growth. As a matter of fact, while some stages of the growth of human beings have been emphasized, other stages have been sorely neglected. The child-study movement, which gained prominence in the late Nineteenth Century and the early Twentieth Century, and the recent widespread interest in the preschool child have given emphasis

to the early periods of development, while the early studies of Hall, King, and others and the more recent study by Pechstein and McGregor have called attention to the importance of adolescence. One would think that the intermediate stages of growth present no problems worthy of investigation. This situation has become somewhat altered by the appearance of an interesting psychological study[1] of the pre-adolescent boy.

In spite of the author's statement in the Introduction, the book is more than a study of the problem of the recreational needs of boys. On the contrary, it is a psychological and sociological treatment of the so-called "gang age," which, according to the author, occurs approximately from the age of ten to the age of fourteen. Some idea of the content of the book may be secured from a brief review of the chapters. In chapter i the author describes the characteristics of the gang age, setting it off from the period of childhood, which precedes it, and the period of adolescence, which follows it. In chapter ii the author attempts a classification of the factors affecting human behavior, and in the succeeding chapters he deals with each of the factors separately. For example, chapter iii is devoted to an exposition of the moral ideals of a boy as a factor in influencing his conduct; chapters iv and v consist of a discussion of the effect of the "unconscious" on behavior and the mental mechanisms by which it operates. Chapters vi, vii, and viii are given over to a consideration of the relation of intelligence to the general reactions of the whole boy and to a consideration of the characteristics of boys of sub-average and gifted mentality. Finally, in chapters ix, x, and xi the author presents the broader implications of the general problem.

There are several characteristics of the book which deserve special mention. One is the manner in which the author buttresses his presentation of the topics with liberal use of well-analyzed case studies. He has had wide experience with pre-adolescent boys; this fact is evident throughout his discussions. Another feature that distinguishes the book is the emphasis that the author continually places on what might be termed "character education." Without any sentimentality or display of a narrow point of view, he treats this delicate and little understood topic with considerable ability and places it in its proper psychological and sociological setting. Another item that deserves special mention is the rather delightful form in which the author presents his bibliographical material at the conclusion of each chapter. Instead of employing the usual academic method, he completes the discussion of each topic with a brief comment on the available sources. These comments have a marked tendency to stimulate independent excursions into the particular fields. The complete list of bibliographical items is given in the Appendix. There are 380 titles, many of which are referred to in the body of the discussion. This gives some idea of the extensive background of critical reading which the author brings to his subject.

In conclusion, it might be stated that this book is not to the field of pre-

[1] Paul Hanly Furfey, *The Gang Age*. New York: Macmillan Co., 1926. Pp. xii+190. $2.00.

adolescence what the studies of Gesell and Baldwin and Stecher are to the field of the preschool child. On the other hand, it is much more than a summary of literature, for the existing evidence is well interpreted and synthesized. It is, in fine, a valuable psychological and sociological treatment of the neglected period of pre-adolescence and should be a worthy addition not only to the library of the recreational worker but also to the library of the expert in the field of education.

HOWARD Y. MCCLUSKY

UNIVERSITY OF MICHIGAN

New reading material for the elementary grades.—Teachers of reading in the elementary school will be interested in nineteen new books, two of which are paper-bound workbooks; five, primers or beginners' books; five, easy primary readers; and seven, supplementary readers for the intermediate grades.

One[1] of the two workbooks is designed to aid in the recognition of printed words and short sentences. The seat work provided consists of paper-cutting and coloring. The materials are appropriate for the kindergarten or for the first month of the first grade. The aim of the book is to introduce the child *to* reading rather than to train him *in* reading. The other workbook[2] consists of sixty-eight lesson units printed on perforated cardboard and bound into book form. The various units are to be torn out as the pupil progresses through the book. The first units are simply words to be recognized, while the later units contain phrases and short sentences. On the back of each unit printed directions are given for its use. The material will be used chiefly for flash-card drills.

Of the five books for beginning classes, two[3] are the primer and the first reader of a new series by Elma A. Neal, director of elementary education in San Antonio, Texas, and Ollie Perry Storm. The material in both books is entirely new and is informational in type. In each book the content is based on the experiences of a single group of characters; there is thus a continuity to the stories and added interest value. The material was selected particularly for use with classes of foreign children who are learning English; it is especially well adapted to classes of Mexican children. The mechanics of the books are good with respect to both the printing and the illustrations. The books reflect clearly the present trends in the teaching of primary reading, and they will rank high among books of their class.

A book quite different from the preceding two is a primer[4] by Sullivan and

[1] *Work and Play with Words.* Designed by Norman H. Hall. Chicago: Hall & McCreary Co., 1926. 33 lessons. $0.48.

[2] Hugh C. Moeller and Thomas J. Tormey, *The First Days at School.* Boston: Ginn & Co., 1926. Pp. viii+74. $0.60.

[3] Elma A. Neal and Ollie Perry Storm, *The Open Door Primer,* pp. iv+98. *The Open Door First Reader,* pp. iv+120. For children learning English. New York: Macmillan Co., 1926.

[4] M. E. Sullivan and Philena Morris Cox, *The Beacon Gate to Reading.* Boston: Ginn & Co., 1926. Pp. vi+138.

Cox. The chief feature of this book consists in an attempt to control the character of the reader's eye-movements by building "fences" around the printed units which are supposed to be perceived together. Drill pages are provided in which columns of words properly "fenced" are presented to the reader. The authors have evidently misunderstood the statement that has been repeatedly made in research studies, namely, that eye-movements are symptoms, not causes, of good reading. To claim that the exercises which are presented have been "worked out in the light of the studies and research of recent years" (p. iii) is to place a burden on the research workers that they will be very loath to assume.

The two remaining books of the group for beginners consist of a beginning book[1] of the series by Professor Horn and a new primer[2] of the Smedley and Olsen series. Professor Horn's book is similar in type to the others in the series, of which Book One has been reviewed previously. It supplies excellent material for serious reading. The content, which is informational in character, is admirably selected. The Smedley and Olsen book is a real improvement over the original primer, good as it was. The illustrations are in color, and the content is new.

Among the five books classed as easy primary readers, one[3] is written by Marjorie Hardy for second-grade children. The content of this book deals chiefly with life in the city but, through numerous striking instances, contrasts life in the city with life in the country. The book describes the experiences of a country boy visiting a city cousin. The careful attention to useful informational content makes the book rightly deserve classification as a "community-life" reader. The success of the author in making the material of lively interest to second-grade children indicates clearly what can be done in enriching reading in the lower grades. The book is an excellent contribution to child literature.

Three of the easy primary readers are made up of animal stories. One,[4] by Emma Serl, tells the experiences of a squirrel family, personifying the behavior of the squirrels in such a way that the stories teach lessons of courtesy. The story interest is sufficient to support the instruction in manners, which at times shows a tendency to become "preachy." The second book[5] of animal stories is by Emma C. Richey. The stories are of the traditional imaginary type and have little to recommend them. It is a type of reader which was more common a decade ago than now.

[1] Ernest Horn, Prudence Cutright, and Madeline Darrough Horn, *First Lessons in Learning To Study*. Boston: Ginn & Co., 1926. Pp. 132.

[2] Eva A. Smedley and Martha C. Olsen, *The New Primer*. Chicago: Hall & McCreary Co., 1926. Pp. 128. $0.60.

[3] Marjorie Hardy, *New Stories (Community Life)*: A Second Reader. The Child's Own Way Series. Chicago: Wheeler Publishing Co., 1926. Pp. iv+220.

[4] Emma Serl, *Everyday Doings at Home*. Newark, New Jersey: Silver, Burdett & Co., 1926. Pp. 128.

[5] Emma Carbutt Richey, *Stories of Animal Village*. Chicago: Beckley-Cardy Co., 1926. Pp. 140. $0.70.

A book[1] by Anna Sample attempts to combine the child's interest in cutting with his interest in reading. The book is made up of animal stories, which are illustrated by black-and-white silhouettes. The plan is that after reading the story the child is to cut out the pictures and paste them in a book of his own. At the end he will have a book of pictures taken from the original book, which will then be discarded. One wonders why a book which is to be cut needs to be cloth bound.

James W. Sherman has written a second book[2] dealing with the activities of personified kitchen utensils. The grotesque experiences of brooms, teakettles, clothespins, and dishes are written in a humorous style.

Of the seven books for the intermediate grades, two consist of factual information about other peoples. Olivia Price has written a book[3] about the customs of the Chinese as revealed by the experiences of a ten-year-old boy. The book is interesting and the content worth while. The other book[4] of this type describes the condition of the American Indians at the present time. The book is descriptive rather than narrative in style. It will be particularly valuable as a reference book for special projects dealing with Indian life.

Another of the seven books in this group is a nature reader.[5] The book deals with plants and animals native to North America. It is well written, and the illustrations are good. Special lists of exercises and questions for study are provided.

Edith Lawson has written a health reader,[6] in which a large amount of useful information about healthful living is given. The book has a tendency to be encyclopedic, but, if the material is presented in small units, this danger may be avoided. The black-and-white drawings add much to the attractiveness of the book.

A book[7] of tales of heroes of the Hebrew people has been prepared by Newton M. Hall. Preceding each story is a brief historical paragraph giving the setting of the story. Following each story are selected samples from English

[1] Anna Eliza Sample, *My Cut-a-Picture Book*. Newark, New Jersey: Silver, Burdett & Co., 1926. Pp. vi+122.

[2] James Woodward Sherman, *The Gay Kitchen*. Boston: Little, Brown & Co., 1926. Pp. x+144.

[3] Olivia Price, *The Middle Country*. Yonkers-on-Hudson, New York: World Book Co., 1926. Pp. 176. $1.00.

[4] Flora Warren Seymour, *The Indians Today*. Chicago: Benj. H. Sanborn & Co., 1926. Pp. iv+236.

[5] Edith M. Patch, *First Lessons in Nature Study*. New York: Macmillan Co., 1926. Pp. xii+288.

[6] Edith Wilhelmina Lawson, *Better Health for Little Americans*. Chicago: Beckley-Cardy Co., 1926. Pp. 152. $0.70.

[7] Newton Marshall Hall, *Tales of Pioneers and Kings*. Boston: Ginn & Co., 1926. Pp. xii+234.

and American literature, which make allusion to the story just told. The book contains a collection of stories which every child should know.

Margaret G. Arnold has prepared a book[1] of old folk tales which will be attractive to children in the fourth or fifth grade. As a brief collection of such tales, this book will be very useful. The illustrations are quaint and attractive.

A carefully prepared reader[2] for Grade V is the collection of material by Superintendent Condon. The editor's aim was to secure selections chiefly inspirational in character, although, where informational material is used, it has been checked for accuracy. The book contains a great variety of material, and it should prove useful not only as a reader but as a stimulus to high purposes and ideals.

One of the most significant facts revealed by an examination of such a group of books as that covered in this review is the distinct trend toward reading materials with a more valuable content. Instead of continuing to publish books which are simply collections of old classics, publishers are apparently looking for materials which are new and which present content useful in the experiences of the child. This is particularly noticeable in the lower grades. The outcome will be a body of richer content material for children to read.

G. T. BUSWELL

Problems and projects for platoon schools.—With the increasing favor of the platoon schools, publications discussing the various activities of these schools are becoming numerous. The title of a recent book, *Correlation in the Work-Study-Play School*,[3] proves to be somewhat misleading, inasmuch as the body of the text deals mostly with the methods used in working out problems and projects in the schools of Akron, Ohio. In selecting the title for her book, Miss Sullivan apparently overlooked the fact that problems and projects are no more essential to the platoon school than to any other type of school organization. However, the subject matter dealt with is so varied that it would be difficult to describe the book by means of a brief title.

The book includes material for special days, type lessons in various elementary-school subjects, patriotic exercises, and suggestions for dramatizations in the auditorium. Numerous photographs are employed to set forth the activities and the accomplishments of Akron school children. The book would be much more lucid if photographs had been used exclusively. In substantiation of this statement, the following typical sentence is presented.

The "police judge" who was one of the most enthusiastic listeners to the stories in the auditorium during the noon hour, when he had heard in the course of the trial's pro-

[1] Margaret Gordon Arnold, *Folk Tales Retold*. Milwaukee, Wisconsin: Bruce Publishing Co., 1926. Pp. 94. $0.96.

[2] *High and Far*. Edited by Randall J. Condon. The Atlantic Readers, Book Two, Grade V. Boston: Little, Brown & Co., 1926. Pp. xxiv+336. $0.85.

[3] Ellen F. Sullivan, *Correlation in the Work-Study-Play School*. Akron, Ohio: Ellen F. Sullivan (42 Belvidere Way), 1926. Pp. xviii+386. $2.50.

ceedings, the testimony of those who regarded this intrusion in the auditorium at lunch time, a violation of "good citizenship," and an injustice to those who had gone home to lunch and while he also listened to the testimony of the offender, in which he stated that he did it because he wanted to hear the stories that he had heard the others talking about, and that it wasn't because he wanted to be a poor "citizen" and that he did not appreciate the first right of those out on the Massillon Road, Tonawanda Ave., and Seiberling St., in the outskirts of the district, to bring their lunch—became very much perplexed as to what he should say in rendering a just decision [p. 9].

Miss Sullivan's book will be read with interest by those who enjoy coping with word combinations such as the foregoing and by those who do not object to supplying verbs for sentences which have none. On the whole, it is hardly an exaggeration to say that the book is characterized by complete lack of organization. This applies to sentences, paragraphs, and chapters and to the volume as a whole. The only redeeming feature of the book is the fact that almost all the numerous photographs are clear and meaningful.

HARVEY C. LEHMAN

UNIVERSITY OF KANSAS

Teacher placement.—Teachers testify that the procedure involved in securing a position is too often based on mere rule of thumb. This fault in our system of recruiting teachers has been a source of grave concern among students of education. Evidence in the form of a book[1] is now at hand to show that one educator has felt the need of a solution of the problem strongly enough to try to solve it.

Professor Hines has addressed his book to the beginner seeking his first position and to the teacher of experience seeking promotion. It is his belief that "success in teaching can come through success in finding the right position in the right school and in the right community under the right supervision and administration" (p. v). His book attempts to direct the teacher in his effort to achieve success in placement. The subject is treated in eleven chapters: "Need for Careful Selection of Teachers," "Approaching the Problem of Employment," "The Written Communication," "The Personal Interview," "The Observation of Teaching," "Causes for Waste in Teaching-Efficiency," "Need for Proper Placement of Teachers," "In the Service of the Public School," "In the Service of the Higher Institution," "Extra-Professional Activities," and "The Teacher and the Profession."

In the development of these topics Professor Hines describes different teaching environments and gives specific directions relative to procedure in searching for the right one. In fact, the book is more descriptive than directive. It is like a textbook in form. However, the language is to the point and easy to read.

[1] Harlan Cameron Hines, *Finding the Right Teaching Position*. New York: Charles Scribner's Sons, 1926. Pp. vi+200.

Teachers and students training for the profession will find in this book sound advice and reliable information. A few hours spent with it will not be wasted.

F. DEAN MCCLUSKY

PURDUE UNIVERSITY

Teaching beginners to write.—That children learn to write by writing is the conclusion of an experimental study[1] which deals with the merits of mechanical devices as aids in teaching handwriting. The customary condemnation of such devices has rested on the general principles of learning. This study yields experimental evidence on this point and contributes as well to the more general question of transfer of training.

Four methods of teaching were compared in this experiment. In one, the children traced a copy of a word through transparent paper. In another, three devices were used: following a groove with a pencil, tracing a sandpaper outline with the finger, and tracing a copy of the word with the finger. In the third, the children copied directly from a model placed before them. In the fourth, a combination of all the methods was used. The pupils were kindergarten children who had never done any writing. The groups were carefully equated on the basis of their scores on a test of motor skill; mental age was also considered. All groups were given practice ten minutes a day for twenty-two days, directed by their regular teachers under ordinary classroom conditions. The results show that the group of pupils using the third method, that is, writing with a copy before them, made better progress at all stages of the experiment and at the end made significantly better scores than did any other group. It is unfortunate that the practice was not continued for a longer time, for during the last few days all groups were making rapid progress, and it does not seem certain that the relative positions of the groups would have been maintained.

Two interesting by-products issued from this experiment. One is a scale for judging the quality of the handwriting of beginners. The other is a test of motor skill. Neither is entirely objective, but both will prove useful, or at least suggestive, to first-grade teachers and to experimental workers. The author gives a formula for predicting success in learning to write based on mental age and scores on his test of motor skill. Of twenty-nine children who, according to this formula, would be expected to fail, eight (28 per cent) succeeded in learning to write (Table XII, p. 54); that is, they met the author's criterion of success. Surely, no one will take very seriously a formula which is in error in more than one-fourth of its predictions of failure.

This monograph will prove interesting to those engaged in the teaching of handwriting and also to investigators who are carrying on similar experimental work.

ROBERT C. SCARF

[1] Oscar Edward Hertzberg, *A Comparative Study of Different Methods Used in Teaching Beginners To Write.* Teachers College Contributions to Education, No. 214. New York: Teachers College, Columbia University, 1926. Pp. 62. $1.50.

CURRENT PUBLICATIONS RECEIVED

GENERAL EDUCATIONAL METHOD, HISTORY, THEORY, AND PRACTICE

CUROE, PHILIP R. V. *Principles of Education.* New York: Globe Book Co., 1926. Pp. vi+138.

Guidance of Childhood and Youth: Readings in Child Study. Compiled by Child Study Association of America. Edited by Benjamin C. Gruenberg. New York: Macmillan Co., 1926. Pp. xii+324.

KILPATRICK, WILLIAM HEARD. *Education for a Changing Civilization.* New York: Macmillan Co., 1926. Pp. vi+144.

LERRIGO, MARION OLIVE. *Health Problem Sources.* Teachers College Contributions to Education, No. 224. New York: Teachers College, Columbia University, 1926. Pp. x+152. $1.50.

MCHALE, KATHRYN. *Comparative Psychology and Hygiene of the Over-Weight Child.* Teachers College Contributions to Education, No. 221. New York: Teachers College, Columbia University, 1926. Pp. vi+124. $1.50.

The Path of Learning: Essays on Education. Selected and edited by Henry W. Holmes and Burton P. Fowler. Boston: Little, Brown & Co., 1926. Pp. x+488.

PAYNE, WILFRED. *Problems in Logic.* Educational Problem Series, No. 11. Bloomington, Illinois: Public School Publishing Co., 1926. 43 problems.

RICE, EMMETT A. *A Brief History of Physical Education.* New York: A. S. Barnes & Co., 1926. Pp. xxiv+276. $2.00.

TAYLOR, ROBERT B. *Principles of School Supply Management.* Teachers College Contributions to Education, No. 228. New York: Teachers College, Columbia University, 1926. Pp. vi+146. $1.50.

TOTAH, KHALIL A. *The Contribution of the Arabs to Education.* Teachers College Contributions to Education, No. 231. New York: Teachers College, Columbia University, 1926. Pp. vi+106. $1.50.

WASHBURNE, CARLETON, in collaboration with Myron M. Stearns. *New Schools in the Old World.* New York: John Day Co., 1926. Pp. xvi+174. $1.75.

WEIDEMANN, CHARLES CONRAD. *How To Construct the True-False Examination.* Teachers College Contributions to Education, No. 225. New York: Teachers College, Columbia University, 1926. Pp. x+118. $1.50.

BOOKS PRIMARILY FOR ELEMENTARY-SCHOOL TEACHERS AND PUPILS

ASHTON, MINA PEARL. *Story-Book Tales.* Chicago: Beckley-Cardy Co., 1926. Pp. 112. $0.70.

AYER, FRED C. *Course of Study in Handwriting:* Grades One to Six. Bulletin No. 3. Seattle, Washington: Department of Research, Seattle Public Schools, 1926. Pp. 50. $0.25.

BEALER, RAYMOND M. *A Problem in Boat Making.* Peoria, Illinois: Manual Arts Press, 1926. Pp. 24. $0.48.

BOLENIUS, EMMA MILLER. *Literature in the Junior High School,* Book One. Boston: Houghton Mifflin Co., 1926. Pp. xx+620. $1.40.

DICKSON, MARGUERITE STOCKMAN. *American History for Grammar Schools.* New York: Macmillan Co., 1926 [revised]. Pp. xviii+656+lii.

FIELD, WALTER TAYLOR. *The Field Sixth Reader.* Boston: Ginn & Co., 1926. Pp. 464. $0.92.

HARDY, MARJORIE. *New Stories (Community Life):* A Second Reader. The Child's Own Way Series. Chicago: Wheeler Publishing Co., 1926. Pp. iv+220.

JOHNSON, MABEL HUBBARD. *Dot and David.* Chicago: American Book Co., 1926. Pp. 140. $0.60.

PHILLIPS, D. E., in collaboration with Jesse H. Newlon. *The New Social Civics.* Chicago: Rand McNally & Co., 1926. Pp. x+536.

SERL, EMMA. *Johnny and Jenny Rabbit.* Chicago: American Book Co., 1926. Pp. 126. $0.56.

SHERMAN, JAMES WOODWARD. *The Gay Kitchen.* Boston: Little, Brown & Co., 1926. Pp. x+144.

TAYLOR, C. RALPH. *Vital English,* Advanced Book. Boston: F. M. Ambrose Co., 1926. Pp. xiv+362.

TAYLOR, C. RALPH, and MORSS, LOUISE K. *Vital English,* Intermediate Book. Boston: F. M. Ambrose Co., 1926. Pp. x+254.

TAYLOR, C. RALPH, and TOBEY, MARIAN E. *Vital English,* Primary Book. Boston: F. M. Ambrose Co., 1925. Pp. xvi+240.

TAYLOR, FRANCES LILIAN. *Adventures in Storyland:* A Primer. Chicago: Beckley-Cardy Co., 1926. Pp. 128. $0.60.

TUSTISON, F. E. Job Sheets for the Practical Electrical Shop. Milwaukee, Wisconsin: Bruce Publishing Co., 1926. 35 sheets. $0.68.

The Understanding Prince: The Atlantic Readers, Book One, Grade IV. Edited by Randall J. Condon. Boston: Little, Brown & Co., 1926. Pp. xxvi+336.

PUBLICATIONS OF THE UNITED STATES BUREAU OF EDUCATION AND OTHER MATERIAL IN PAMPHLET FORM

Books for the Elementary School Library. Maryland School Bulletin, Vol. VIII, No. 2. Baltimore: State Department of Education, 1926. Pp. 134.

CAMENISCH, SOPHIA C. Chicago Practice Tests for Mastery. Chicago: English Journal (506 West Sixty-ninth Street), 1926. 40 tests.

CLAPP, FRANK L., and RISK, THOMAS M. *Better Teaching:* A Handbook for Teachers and Supervisors. Newark, New Jersey: Silver, Burdett & Co., 1926. Pp. iv+58. $0.68.

Handbook for Course of Study Committees. Superintendent's Bulletin, Course of Study Series, No. 100. Oakland, California: Oakland Public Schools, 1926. Pp. 56.

MERRY, BLANCHE. *Child Accounting in Indiana.* Bulletin No. 85. Indianapolis, Indiana: State Department of Public Instruction, 1926. Pp. 70.

MONROE, WALTER S., and CLARK, JOHN A. *The Teacher's Responsibility for Devising Learning Exercises in Arithmetic.* Bureau of Educational Research Bulletin No. 31. University of Illinois Bulletin, Vol. XXIII, No. 41. Urbana, Illinois: University of Illinois, 1926. Pp. 92. $0.50.

O'BRIEN, F. P. *The High-School Teaching Load and Preparation of High-School Teachers.* Kansas Studies in Education, Volume I, Number 5. Bulletin of the University of Kansas, Vol. 27, No. 10. Lawrence, Kansas: University of Kansas, 1926. Pp. 38.

ODELL, CHARLES W. *The Interpretation of the Probable Error and the Coefficient of Correlation.* Bureau of Educational Research Bulletin No. 32. University of Illinois Bulletin, Vol. XXIII, No. 52. Urbana, Illinois: University of Illinois, 1926. Pp. 50. $0.50.

A Supervisor of Town Schools Analyses Her Work for the Year, 1925–1926. Maryland School Bulletin, Vol. VIII, No. 3. Baltimore: State Department of Education, 1926. Pp. 64.

Twenty-Sixth Annual Report of the Director of Education. Manila, Philippine Islands: Bureau of Education, 1926. Pp. 160.

Vocational Education in Virginia. Bulletin State Board of Education, Vol. IX, No. 1. Richmond, Virginia: Department of Public Instruction, 1926. Pp. 104.

MISCELLANEOUS PUBLICATIONS

CAWL, FRANKLIN R. *A Method for Predicting Length of Service:* Including Analysis of Certain Factors Designed To Aid in Vocational Guidance. Philadelphia: University of Pennsylvania, 1926. Pp. 146.

HEADLEY, LEAL A. *How To Study in College.* New York: Henry Holt & Co., 1926. Pp. x+418. $3.00.

PEFFER, NATHANIEL. *New Schools for Older Students.* New York: Macmillan Co., 1926. Pp. 250. $2.50.

SCHAUFFLER, HENRY PARK. *Adventures in Habit-Craft:* Character in the Making. New York: Macmillan Co., 1926. Pp. 164. $2.00.

WELLS, H. G. *The Outline of History:* Volume I, pp. x+384; Volume II, pp. viii+385–768. New York: Macmillan Co., 1926 [revised and illustrated]. $15.00.